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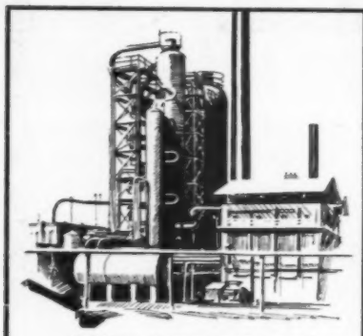

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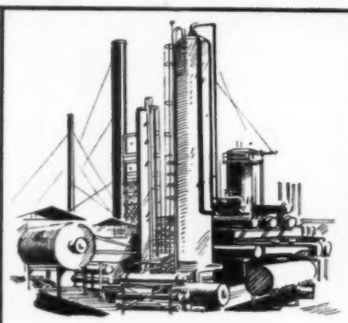

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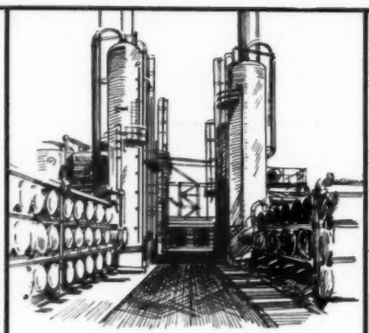

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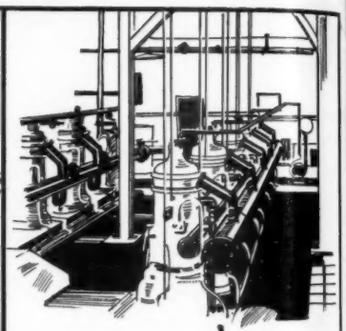

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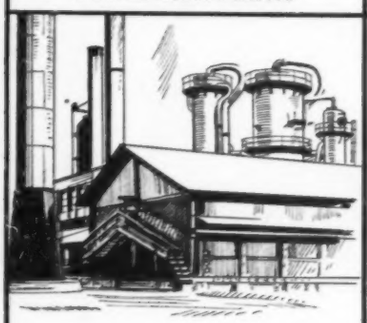

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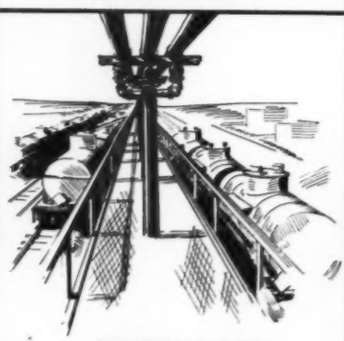

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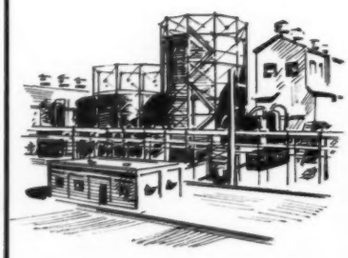

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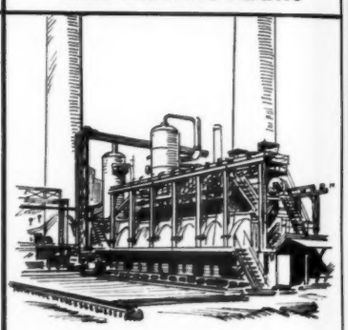

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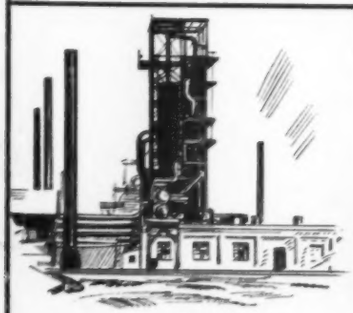

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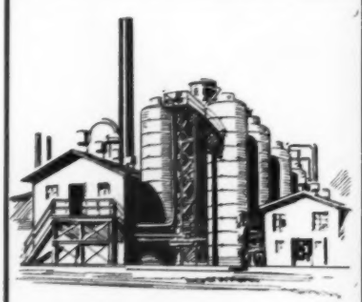

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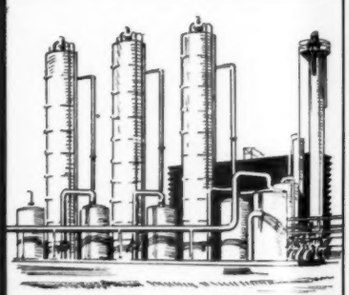

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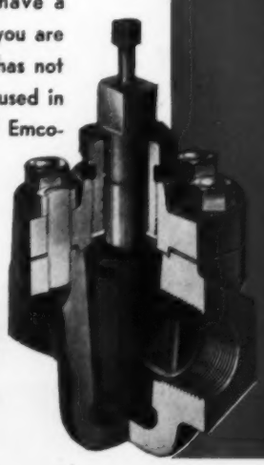

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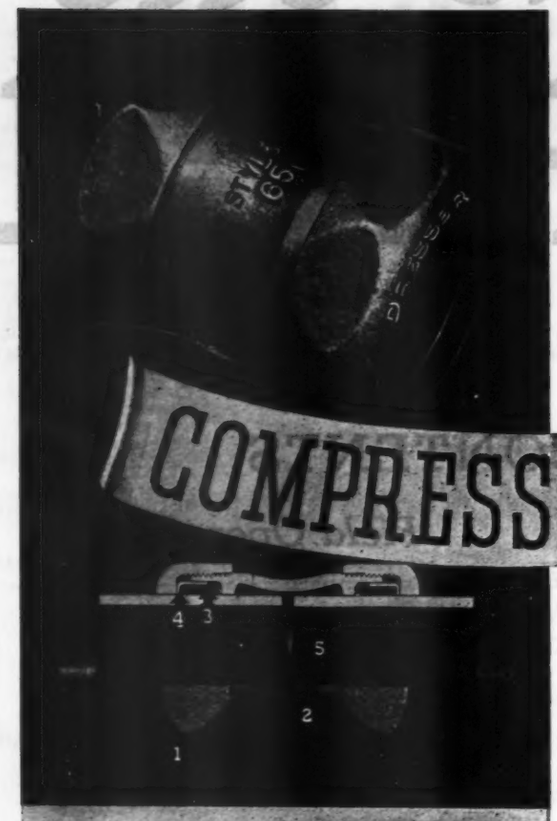

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Improved Crude Market Depends on Continuance of Stabilization Effort

By ANDREW M. ROWLEY

UNEASINESS REGARDING the crude oil situation has been somewhat allayed, temporarily, but conditions in several areas are still such that vigorous efforts must be continued to insure a healthy market. The threat of a drastic price cut in California, backed by a knowledge that the large purchasers there have shown in the past they mean what they say, brought a reduction in production during the past week but whether operators will continue to curtail sufficiently to avoid a readjustment of posted schedules remains to be seen. Considerable importance is attached to the fact California state officials are showing a strong disposition to enter suits on various grounds against operators in that state who have consistently flouted regulations and curtailment agreements and plans.

Michigan operators voted unanimously to support a voluntary curtailment program and the producers' association in that state will seek to procure rigid state control of output. East Texas again is an important factor in the general situation, not so much from the standpoint of hot oil production as to the effect of the sales of large quantities of confiscated crude oil at prices below posted quotations. Also because runs to refineries in the area are increasing with some plants operating on untendered crude and total runs to stills admittedly greater than the allowable production of wells to which these refineries are connected. The East Texas situation is complicated further by sales of crude oil by large companies to refineries which have either been shut down or which have been definitely associated with hot gasoline production.

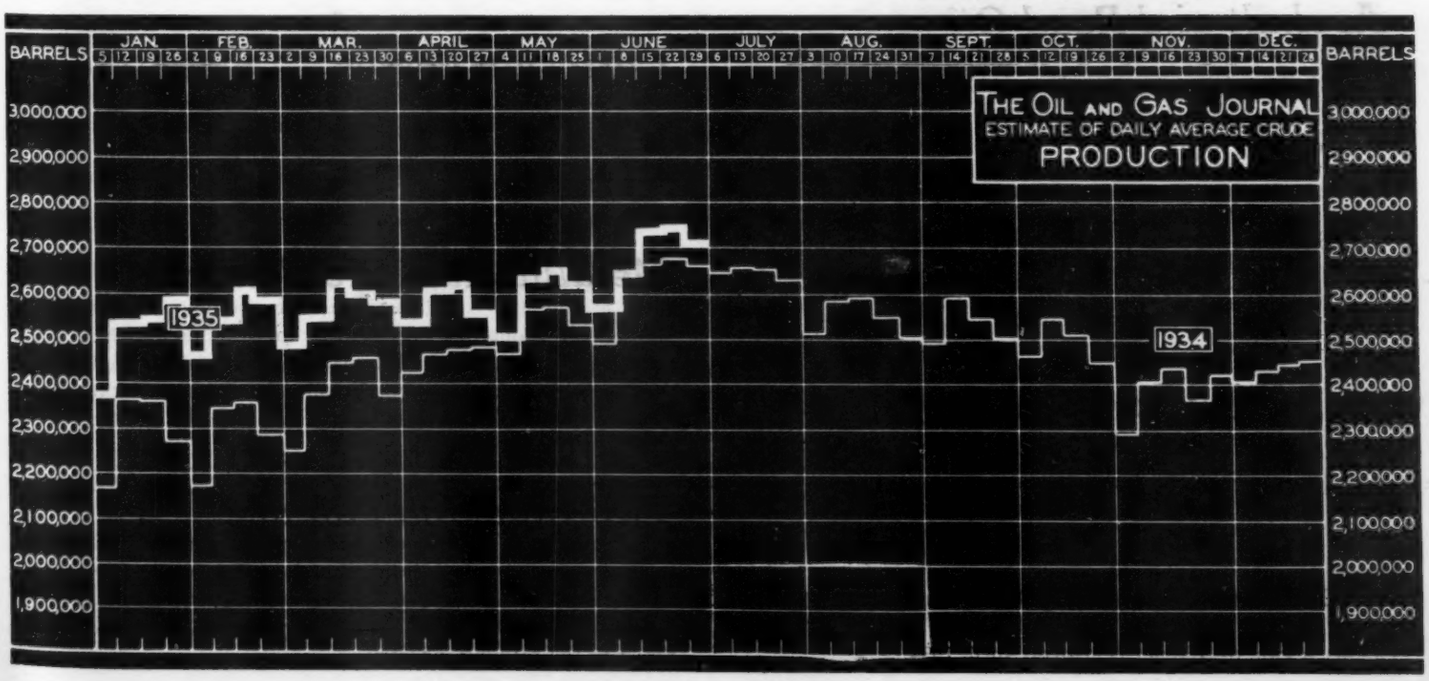
A detailed study of the overall picture merely emphasizes the lack of foresight of those operators who seek temporary selfish gain instead of better prices bound to materialize. As an example the state umpire in California stated last week that within 18 months there would be an actual shortage of crude oil in California. The vast quantity of water being produced in the different oil fields in California is also a factor engaging attention of engineers there. New prolific fields are not being discovered and consumption continues to mount.

Crude Oil Production in the United States

Estimated daily average production for the week ending June 29, a comparison with previous week and the Federal recommendations follow:

	June 29	Federal recommendation June	June 22
Oklahoma—			
Oklahoma City	157,225	.....	149,125
Seminole-St. Louis	101,175	.....	103,225
Remainder of State	262,775	.....	264,675
Total Oklahoma	521,175	514,200	517,025
East Texas—			
Lathrop	168,526	.....	167,838
Kilgore	163,297	.....	156,556
Joiner	159,594	.....	154,298
Total East Texas	491,417	.....	478,692
West Texas	153,884	.....	153,954
North Central Texas	84,779	.....	84,657
Texas Panhandle	58,677	.....	63,425
East Central Texas	49,934	.....	49,723
Gulf Coast—Texas	186,197	.....	183,524
Southwest Texas	64,429	.....	59,617
Total State of Texas	1,089,317	1,059,300	1,073,592
Kansas	147,500	154,300	148,325
North Louisiana	22,635	.....	22,815
Gulf Coast—Louisiana	118,550	.....	115,850
Total Louisiana	141,185	132,300	138,665
Arkansas	30,955	30,700	30,865
Eastern Fields (except Michigan)	104,000	103,700	104,000
Michigan	42,963	36,800	43,444
Rocky Mountain area	105,580	107,000	107,060
California—			
Santa Fe Springs	36,500	.....	39,750
Long Beach	72,500	.....	75,000
Mountain View	20,500	.....	24,000
Elwood	13,800	.....	13,750
Kettleman Hills	62,750	.....	72,500
Remainder of State	325,450	.....	355,000
Total California	531,500	512,700	580,000
Total United States	2,714,175	2,651,000	2,742,976

Decrease 28,801 Bbls. Daily.



THE BULLETIN BOARD

Federal Legislation relating to the petroleum industry, aside from the Wagner labor bill, utility holding company's act, and tax measures, probably will be confined to ratification of the interstate compact and making permanent the Connally law.

▪

Michigan Crudes are of such nature straight-run gasoline distilled from them is not suitable for use in high compression motors without blending, so the rapidly expanding refining industry in Michigan must turn to the practice of reforming or cracking if it is to find an economic outlet for its production.

▪

Motor Fuel Volatility has improved consistently during the past five years and, generally speaking, standards established for the improved winter fuels have been automatically carried on through the summer to produce a progressively high average volatility for the period.

▪

Natural Gasoline production in California in May declined more than five per cent from the April total. Gains in refinery utilization resulted in a demand exceeding the month's supply.

▪

East Texas Pumping problems are simple as the rate of production in the field is restricted to a small output and probably will continue to be so restricted. About 3,750 of the 17,700 wells in the field are equipped for mechanical production.

▪

Asphalt and Road Oil sales of the petroleum industry might be doubled under the opportunity presented through the vast, contemplated expenditures under the Emergency Work Relief Act. Sales during the past three years have averaged 24,000,000 barrels annually.

▪

Gas Lift does not present many intricate problems to engineers in the East Texas Field. Such method of production is entirely practicable for any type well and will secure the oil at costs low enough to justify its use.

▪

An 85 Mile Pipe Line and a 5,000-barrel refinery are to be constructed in the Rio Grande Valley of Texas according to an announcement made this week, the whole project involving an estimated cost of $500,000.

▪

Gasoline Consumption in the United States during April totalled nearly one billion five hundred million gallons, a gain of 6.38 per cent over April, 1934.

Aviation Fuels of exceptionally high anti-knock values are in such demand refiners are forced to consider manufacturing iso-octane, while large scale manufacture of motor fuels of higher than 100 octane rating might necessitate the establishment of a new scale for evaluation purposes, iso-octane having been arbitrarily chosen in 1926 as equal to 100.

▪

Hot Oil Production in East Texas registered a small increase last week while runs to refineries jumped 9,600 barrels daily. Overproduction of crude is estimated at between 30,700 and 32,000 barrels daily. Intrastate movement of gasoline by trucks is increasing.

▪

California Production declined during the past week, easing a critical situation which had developed in that state and which threatened to result in a drastic reduction in posted prices for crude oil. Maintenance of California price schedules depends entirely on the attitude of producers and whether they will co-operate sincerely in efforts to hold production to demand.

▪

The Hastings Field in Brazoria County, Texas is regarded by Gulf Coast operators as assuming the appearance of the largest discovery in that area since Conroe. The field is said to have a uniform sand thickness of more than 150 feet.

▪

The Largest Contract ever entered into by independent jobbing concerns was signed by a group of independent jobbing interests of North Carolina, recently organized as Carolina Terminal, Inc., with James B. Berry Sons Co. for the delivery of between 132,000,000 and 190,000,000 gallons of gasoline and kerosene over the next five years.

▪

Corrosion Losses exact an enormous toll each year from different branches of the petroleum industry, emphasizing the need for the work being done to ascertain definitely causes of corrosion and the efforts being made to minimize these losses.

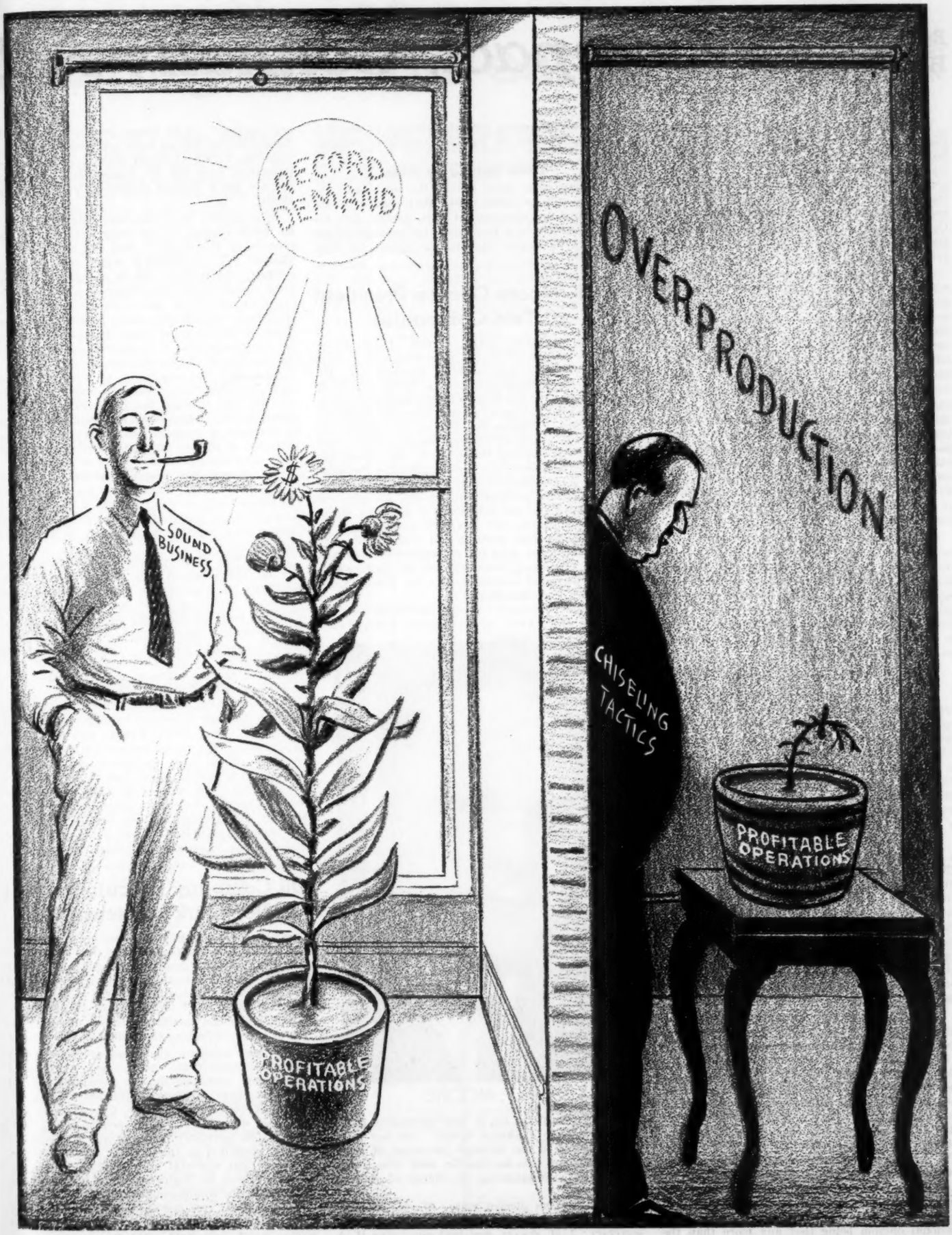
▪

Metallurgical Problems may be aproached with a minimum of expense and a maximum of efficiency through the proper use of indicators the reaction on which under working conditions gives the metallurgist much valuable information from which he can make suitable recommendations as to the most desirable material for the work.

▪

Two Cracking Patents involved in the suit of the Universal Oil Products Company against the Root Refining Company were declared to have been infringed by the latter concern in a decision by the Federal Circuit Court of Appeals sitting in Philadelphia. The case is regarded as of especial interest to the refining industry.

The Blind That Withers



—Drawn Exclusively for The Oil and Gas Journal.

Legislation May Be Limited to Compact, Connally Act

By HUGH D. MALLON

WASHINGTON, D. C., July 2.—Despite the fact that during the week Representative Disney, Oklahoma, conferred with the President on the question of presidential support for the Thomas oil control bill, such support is still lacking. Whether the President will back such a measure depends entirely on whether Mr. Disney is able to get the Congressional and industrial factions into substantial agreement, at which time President Roosevelt will consider the merits of the case and decide.

This legislative uncertainty comes at a time when the industry is approaching its season of highest demand, the tendency being to curtail expansion programs until it is possible to see what the future holds, although the consensus of oil executives here recently is that the industry is sticking to the program laid down in the invalidated oil code.

The problem of keeping markets stabilized is the main issue confronting the industry today, in the opinion of C. E. Arnott, chairman of the marketing subcommittee, who, to accomplish this purpose, is driving forward with his plans to promulgate a revised code of marketing ethics, to be put forward either under the auspices of the Federal Trade Commission, or under the revised N.I.R.A. It is probable it will be approved by the Trade Commission.

Meetings here during the week pointed to its early acceptance by the industry, individuals representing all groups attending meetings and assisting in the promulgation of fair trade practice rules covering the marketing field. From here the meeting moved to New York where it is believed legal phraseology will be added to the language embodied in the original draft, after which the proposals will be submitted to the industry.

Disney in Doubt

Representative Disney, of Oklahoma, after an appointment with the President, stated he might introduce an oil bill in the House soon. Pressed on what he considered soon, he explained he would call together proponents and opponents of the bill in Congress, and Russell Brown and Amos L. Beaty, two proponents of the measure from the industry, and attempt to work out an agreement covering what they would all agree to, if embodied in a bill.

Unless there is a rather general agreement as to what should be included in an oil regulations bill it is not expected there will be any presidential backing for such legislation, bringing the matter down to the fact that if the majority of the industry do not compromise with those seeking federal control the probability is the only legislation which the President will approve will be the ratification of the interstate compact and the making permanent of the Connally law, limitation of imports probably being taken care of in a separate law.

Talk of a compromise by some members of the industry who have been favoring enactment of an interstate compact and nothing more, is believed to be the result of an under-cover whispering campaign being conducted by some promoters of the Thomas bill. There is no indication of any compromise between the two forces, unless some of the proponents of the measure are willing to bargain for the passage of certain of its provisions.

If any agreement among conflicting members of Congress, or members of the industry, is arrived at, it is almost certain the agreement will be limited to the interstate compact ratification and the making permanent of the Connally Act, Congressional opinion being that any more than the compact and the Connally Act is an invasion of states' rights and an unlawful attempt by the Federal government to regulate intrastate transactions.

Drum Beating by Ickes

Administrator Ickes during the week said the Thomas Bill, or a bill substantially like it, would be passed by Congress at this session, but his statement has been referred to by members of the industry as merely "beating the drums for Federal control." It is almost positively known the Administrator got no more positive statement on what the President would back in the way of oil legislation than did Mr. Disney, and Mr. Disney did not get a definite statement from the White House.

Upon leaving the White House Mr. Disney stated he would suggest to the opponents and the proponents of the measure that the section of the Thomas bill, as amended, which sets quotas in commerce be deleted, and in its place be substituted provision for the shipment of certain allocated amounts from each state. This suggestion, Mr. Disney stated, was made because of the decision of the Supreme Court, it being his opinion the original quotas in commerce section violated the concepts of the law in that decision.

Apparently the mechanics of the new section which he would suggest have not been fully worked out, but one attorney for the industry has suggested to Mr. Disney that any attempt by him, or by Congress, to regulate the production, or transportation of oil was an unconstitutional encroachment upon the intrastate powers of the states.

Mr. Disney also recommends that a provision of the Thomas bill which gives the Secretary of the Interior authority to veto acts of the Petroleum Administrative Board also be deleted, it being his opinion such practice would result in a one-man dictatorship.

Meanwhile, there are rumors that included in any oil bill proposed will be provision for the regulation of natural gas production and transportation. Although there is nothing tangible on which to base these rumors they continue, but, if such provisions are included in any oil bill, its doom is practically sealed. Opponents of natural gas regulation, coupled with opponents of Federal control of the oil industry, would practically assure the defeat of such a bill.

The Petroleum Administrative Board is sending out into the field numerous representatives of the Petroleum Labor Policy Board, and almost the entire staff of the marketing division of the Board, to check up on labor conditions and marketing practices. A similar report will also be made to the production and refining divisions of the Petroleum Administration, while several agents of the Division of Investigation, Oil Enforcement Unit, are being retained on the pay rolls, probably to assist in the preparation of these reports.

W. F. Moore Chosen President of Two Companies

R. J. Dearborn, patent counsel of The Texas Co. has resigned from the presidencies of Process Management Co. and Gasoline Products Co. Mr. Dearborn's increasing duties in Texas Co. made it necessary for him to give up the legal and executive work he has been carrying in these companies.

William F. Moore has been elected to take his place as president of Process Management Co. and president of Gasoline Products Co. Mr. Moore has been vice president and general manager for some years. As president he will be in executive charge of all matters pertaining to Process Management Co. and for the two companies it manages, Gasoline Products Co. and Gray Processes Corp. In process and patent research and licensing, Process Management Co. acts for its affiliates, Standard Oil Co. (Indiana), Texas Co., M. W. Kellogg Co., and its managed companies, Gasoline Products Co. and Gray Processes Corp.

Mr. Moore entered the oil business through the refinery end. From power station work, which he began with Texas Co. in 1920, he became power engineer at the Lockport works. His next post was assistant to the manager in charge of refining. Following this he was for some time assistant to the vice president in charge of refining of Texas Co.

W. F. MOORE

Other officers elected were: W. H. Sullivan, vice president and treasurer; Pike H. Sullivan, secretary; J. H. Speyer, assistant secretary; H. A. Bonyun, Jr., assistant treasurer.

Oil Company Executives Meet in New York to Discuss Code

NEW YORK, July 2.—A meeting of oil company executives and attorneys was held here yesterday in connection with the plans to formulate a new code of marketing practices for the oil industry. The meeting follows the action of the board of directors of the American Petroleum Institute which last month authorized the preparation of a code following the ending of the oil code.

The plan calls for the preparation of a code which will incorporate the desirable features of the oil code and also the old voluntary code of ethics in effect previous to the NRA under approval of the Federal Trade Commission. Any new code adopted will be presented in its final form to the Institute's directors and if acceptable will be presented to the Federal Trade Commission for final approval and adoption by the industry. It was not indicated today just when the code committee would complete its work.

C. E. Arnott, vice president of the Socony-Vacuum Oil Co., Inc., is acting chairman of the committee which will hold additional meetings this week.

Uniform Sand 150 feet Thick Is Hastings Field Feature

By F. L. SINGLETON

HOUSTON, Tex., July 1.—Fields opened along the Gulf Coast during the latter part of 1934 are now assuming importance as future reserves. One which has the appearance of becoming the largest field since the Conroe Field in Montgomery County is the Hastings Field in Brazoria County, discovered by Stanolind Oil & Gas Co. in December by the completion of No. 1 J. W. Surface.

The discovery well was drilled on a block of approximately 7,000 acres centering around the A.C.H.&B. Survey No. 2 in the extreme northeastern part of the county, about 22 miles south of Houston. It got its first development in October after the area had been checked with geophysical instruments and following completion of the first test the company immediately made three locations, not over 2,000 feet in a north, east and south direction from the discovery. Although Humble Oil & Refining Co. has recently announced locations for five tests, development to date has been carried on solely by Stanolind Oil & Gas Co. which has eight producing wells to its credit without a failure.

Uniform Sand Condition

One of the features of the field is the existence of a uniform sand condition proven to be more than 150 feet in thickness which is expected to extend the producing limits over a wide area. The structure is gradually being felt out and while the company has seven tests drilling, the majority are situated in a north and southeasterly direction from the discovery, being not more than a mile from production. Although production is expected to be extended a considerable distance in various directions from the discovery, the prolific part of the field seems to be in a south and southeast direction. This theory is based on the structural position, and the amount of saturated oil sand encountered in two of the most southerly wells completed, No. 1 Steve Paul and No. 1 Gilbert Sneed, approximately 2,100 feet south and southeast in the A.C.H.&B. Survey No. 2. Based on the Marginulina, the producing horizon, the wells are more than 200 feet structurally higher than No. 1 J. W. Surface and encountered approximately 150 feet of saturated sand which is the thickest section encountered in any of the other wells.

Some idea may be had on the structural position of the most northerly and easterly producers by correlating the top of the Marginulina with that of the discovery well. The company's No. 1 Wooster, about 2,000 feet north, topped the Marginulina at 5,760 feet and compared to No. 1 J. W. Surface, which topped the same formation at 5,820 feet, it is only 60 feet higher. Approximately the same distance east the Miller test topped the Marginulina at 3,580 feet, placing it 210 feet higher on the structure. The following list is the sand record of the eight wells completed:

Farm name—	Top of oil sand	Total depth
No. 1 Sneed	6,024	6,100
No. 1 Miller	5,972	6,009
No. 1 Wooster	5,975	6,082
No. 1 Surface	6,040	6,118
No. 1 Paul	5,826	6,018
No. 1 Grote	5,852	6,100
No. 2 Gilbert Sneed	5,689	6,102
No. 2 J. W. Surface	5,980	6,100

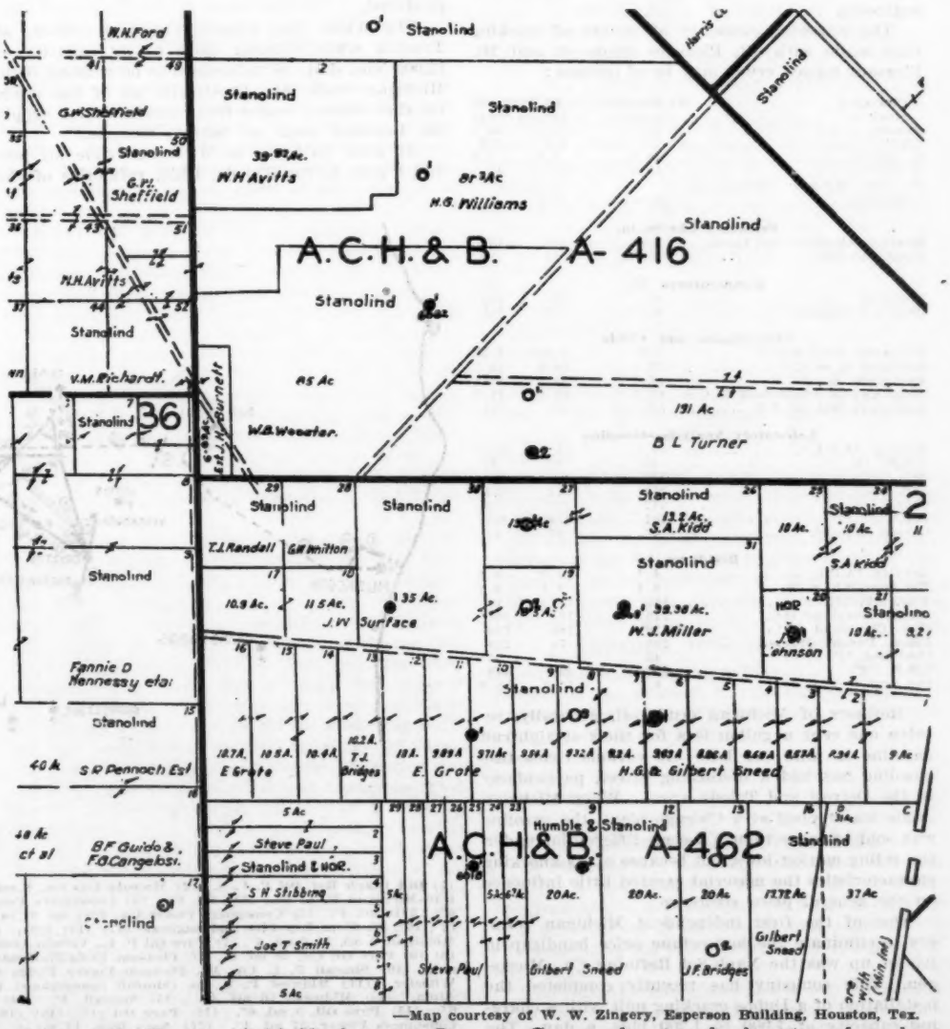
The producing sand is overlapped by a high pressure gas sand encountered around 5,800 feet, and much difficulty was found by the company in controlling this pressure on the first test, which had to be worked over three times before it was completed. The usual practice in completing the wells is to set 13⅜-inch surface casing at approximately 1,332 feet and a protection string of 9⅝-inch casing cemented above the gas sand at around 4,350 feet, which is followed by a string of 7-inch casing cemented just below the top of the oil sand. To hold down the gas oil ratio, the wells are brought in under a small choke and very seldom is the size of the choke changed until a potential test is made. It has been estimated that the cost of a completed well is $65,000.

Water Level

While the discovery well proved the structure productive, it also established the water level for the field by testing salt water after it had been deepened to 6,154 feet. It was originally drilled to 5,990 feet, where it made 5 bbls. per hour, but due to a faulty cementing job, partly caused by the high gas pressure, which registered 2,175 pounds on the tubing and 2,400 pounds on the casing, the screen and tubing was pulled and the well deepened to 6,003 feet, where a string of 7-inch casing was cemented to 5,982 feet. It was completed again, flowing 134 bbls. the first 14 hours through a three-sixteenths inch choke, but another faulty cementing job resulted in the test being deepened the third time to 6,154 feet, where it tested salt water after the third full string of casing was set, which was 5-inch cemented at 6,038 feet. It was finally completed after it had been plugged back to 6,118 feet, and was brought in for an initial production of 147 bbls. per day, flowing through an eleven-sixteenths inch choke with tubing pressure 600 pounds and casing pressure 610 pounds.

The prospects of production being extended another half mile north and the same distance southwest will probably soon be known as two tests being drilled by Stanolind Oil & Gas Co. are nearing the producing horizon. The company's No. 1 Ford, north of its No. 1 Wooster in the A.C.H.&B. Survey No. 2 is drilling in shale below 4,900 feet. Southwest of production, and the first test to be drilled in this direction, the company's No. 1 Hutchinson, west of the Paul producer in the A.C.H.&B. Survey No. 36, is drilling in hard sand below 4,490 feet. With seven rigs running in the field, and four more locations made by the company the past week, together with the five locations to be drilled by Humble Oil & Refining Co., this field has become the most active area on the Gulf Coast. While Stanolind Oil & Gas Co. owns the majority of the controlling acreage, Humble Oil & Refining Co., West Production Co. and Standard Oil Co. of Kansas own acreage east and northeast.

The daily average production from the eight completed wells is approximately 950 bbls. of 38 gravity, and is being run through a 6-inch pipe line that extends 8 miles east to the Pan American Pipe Line Co.'s main trunk line from Houston to the Pan American Refining Co. at Texas City.



—Map courtesy of W. W. Zingery, Esperson Building, Houston, Tex.

Map of the Hastings field, Northeastern Brazoria County showing the location of producing and drilling wells

Outlook for Michigan Refiners Is Question of Cracking

By R. C. CONINE

MOUNT PLEASANT, Mich., July 1.—The outlook for Michigan refiners is full of "ifs". If Michigan crudes, with a single exception, matched East Texas oil in anti-knock rating in the straightrun gasoline fraction, the highest crude production anticipated for 1935 in the state could be quadrupled without a single barrel leaving the state, providing the refining capacity of Michigan plants were doubled, and providing it became uneconomic to ship gasoline into the state. However, straightrun gasoline from Michigan crude oil is highly paraffinic with an octane rating ranging from 15 to 30, and it has slight susceptibility to tetraethyl lead. Cracking or reforming, offers the only economic possibility for improving the anti-knock value of this gasoline.

Gasoline of 412° F. endpoint from Mount Pleasant crude, for instance, has an octane rating of 19. The cracked gasoline produced from processing the entire crude is 53 octane, considerably lower than similarly processed Mid-Continent crude oil gasoline. However, if instead of charging the entire crude directly to the regular full flashing type unit, the processing be set up on a two coil basis where the straightrun gasoline is reformed or cracked in one coil and the balance of the crude cracked in the regular manner, maximum octane values can be obtained consistent with commercial yields of gasoline, according to Dubbs engineers.

The following summary of results of cracking runs made with Mt. Pleasant crude oil and Mt. Pleasant topped crude may be of interest:

Charging stock—	Mt. Pleasant crude	Mt. Pleasant topped crude	
Gravity A.P.I.	42.7	30.8	32.1
I.B.P.	113	436	419
% 437° F.	40.0	0.0	3.0
% 572° F.	59.5	33.0	40.0
Per cent B.S.&W. (benzol centrifuge)	trace	0.6	0.4
Pressures Lbs/Sq. in.			
Reaction chamber and tubes	350	300	350
Flash chamber	50	50	50
Temperatures °F.			
Transfer	950	945	950
Reaction chamber	950	897	901
Throughputs and Yields			
Charging stock G.P.R.	1.72	2.65	1.59
Gasoline % of C.S.	72.4	59.8	59.2
Residuum % of C.S.	15.5	28.0	29.1
Coke, gas, & unacc. loss % C.S.	11.1	12.2	11.7
Gas, cu.ft./bbl. of C.S.	357	457	315
Laboratory Analysis—Gasoline			
Gravity °A.P.I.	62.0	60.5	60.7
I.B.P. °F.	95	94	98
20%	136	134	130
50%	258	272	261
90%	372	373	370
E.P.	461	389	402
Octane Number	53	67	67
Residuum			
Gravity °A.P.I.	4.4	10.0	6.5
Per cent B.S. & W.	0.4	0.3	0.3
Visc. S.F./122° F.	165	36	19
Flash, Cleveland O.C.	350	195	265
Fire, Cleveland O.C.	350	285	350
Flash, Pensky Marten	205	75	210
Cold test °F.	45	—0	25
I.B.P. °F.	454	396	440
Per cent at 572° F.	8.0	17.0	9.0

Refiners of Michigan crude oil, generally, receive one cent a gallon less for their straightrun gasoline in tank car lots. At various times this gasoline has had a disturbing effect, particularly in the Detroit and Toledo areas. When Michigan crude was topped at a Chicago plant, the gasoline was sold at more than a 1-cent differential under the ruling market lows, but because of its knocking characteristics the material exerted little influence on the general price structure.

One of the first independent Michigan refiners to eliminate the low octane price handicap in its set up was the Naph-Sol Refining Co., Muskegon. This company has recently completed the installation of a Dubbs cracking unit with a charging capacity of 1,000 to 1,200 bbls. a day. The special naphthas featured by the company will not be relegated to the background as two new naphtha stills and a fractionating tower have just been added. The topping plant has a daily crude oil capacity of 3,000 bbls.

Michigan refineries and their daily crude oil capacity are shown in the following table:

	Bbls.
Roosevelt Refining Co., Mt. Pleasant	6,000
Pure Oil Co., Midland	3,500
Naph-Sol Refining Co., Muskegon	3,000
Old Dutch Refining Co., Muskegon	3,000
Keystone Oil Refining Co., Detroit	2,100
McClanahan Refineries, Inc., St. Louis	2,000
Mid-West Refineries, Inc., Alma	2,000
Pentagon Oil Co., Plymouth	1,500
Standard (Indiana) Zilwaukee (S.D.)	1,500
Superior Oil Corp., Elsie	1,000
Sweet Oil Refining Co., Wyman	750
Kent Refining Co., Grand Rapids	500
Central Refining Co., St. Louis	300
White Star Refining Co., Trenton	12,000
Wayco Refining Co., Toledo	2,000

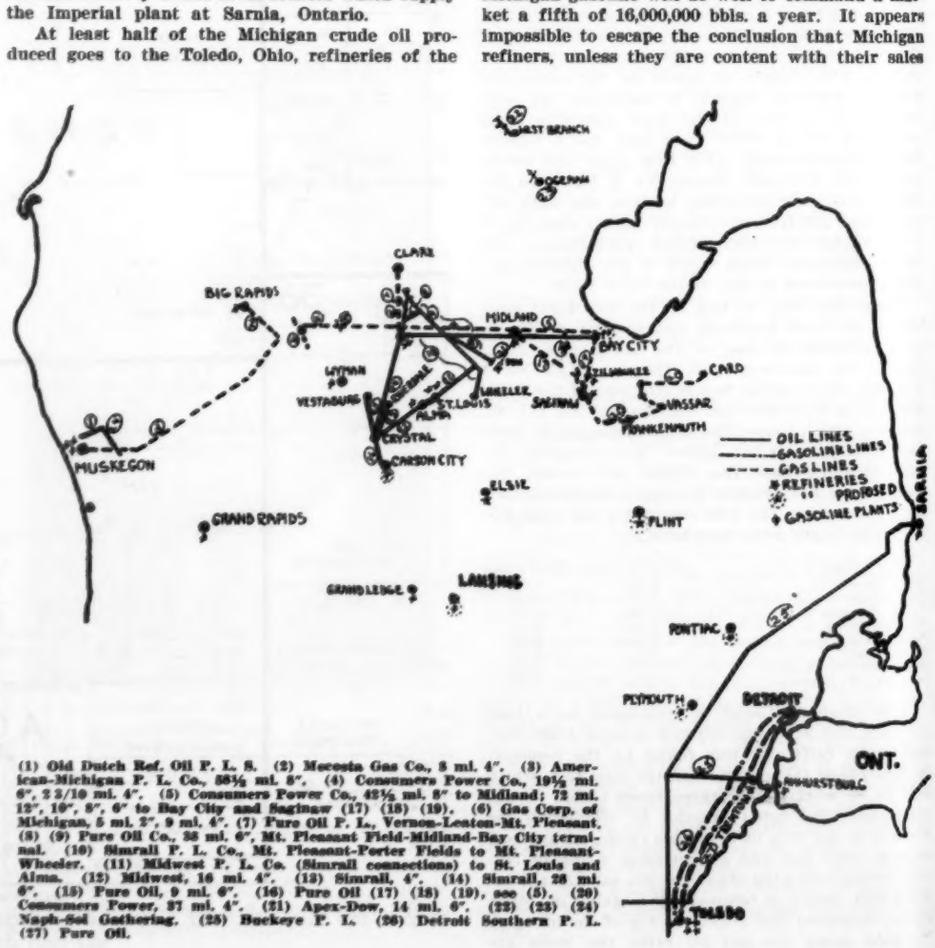
While Wayco Refining Co. does not have a refinery in Michigan, only crude from that state is processed. Through a union with the A. J. Youmans interests of the Ogemaw and Broonfield producing districts, the refining company is assured of a large supply of crude oil. At present the Wayco plant is capable of producing 250,000 gallons of straightrun gasoline a month and a similar volume of lubricating oil materials. Special naphthas, kerosene and several specialties are also produced.

The White Star (Socony-Vacuum) refinery at Trenton while running close to its capacity of 12,000 bbls. daily is understood to be running little Michigan crude oil. Practically all of the crude for this refinery comes from sources which supply the Imperial plant at Sarnia, Ontario.

At least half of the Michigan crude oil produced goes to the Toledo, Ohio, refineries of the Pure Oil Co., Standard Oil Co. of Ohio, the Sun Oil Co., and the Gulf Refining Co. Pure has Gyro and Cross cracking installations with daily charging capacity of 8,000 bbls. at Toledo. Gulf, which is reported to be processing about 4,000 bbls. of Michigan crude daily, has a daily cracking capacity of 13,000 bbls. The Standard of Ohio has 4,500 bbls. daily cracking capacity of the tube and tank type. Sun Oil Co. has 6,000 barrel daily cracking capacity at the Toledo plant. The White Star plant at Trenton has Dubbs and Controlled Coil cracking units with a total of 6,600 bbls. daily capacity.

Three of the plants processing Michigan crude oil exclusively cut wax distillate and produce steam refined stocks. These are Roosevelt Refining Co., Wayco Refining Co., and Keystone Oil Refining Co.

While it may be possible for a Michigan refiner who has his own crude oil production and pipe lines to move gasoline out of the state, most observers counsel a concentration on business obtainable within the state as the adjoining areas are closely covered by competitors with facilities not yet available to most Michigan operators. The 1,148,953 motor vehicles registered in Michigan in 1934 are estimated to have consumed about 13,500,000 bbls. of gasoline. Some estimate the consumption of motor fuel in Michigan in 1934 as high as 16,000,000 bbls. On the basis of a recovery of 27 per cent for finished gasoline from the crude, this would represent a crude oil requirement of 59,250,000 bbls. a year. However, straightrun Michigan gasoline will do well to command a market a fifth of 16,000,000 bbls. a year. It appears impossible to escape the conclusion that Michigan refiners, unless they are content with their sales



(1) Old Dutch Ref. Oil P. L. S. (2) Mercosta Gas Co., 8 mi. 4". (3) American-Michigan P. L. Co., 58½ mi. 8". (4) Consumers Power Co., 19½ mi. 6", 2 3/10 mi. 4". (5) Consumers Power Co., 42½ mi. 8" to Midland; 72 mi. 12", 10", 8", 6" to Bay City and Saginaw (17) (18) (19). (6) Gas Corp. of Michigan, 5 mi. 3", 9 mi. 4". (7) Pure Oil P. L., Vernon-Leaton-Mt. Pleasant. (8) (9) Pure Oil Co., 38 mi. 6", Mt. Pleasant Field-Midland-Bay City terminal. (10) Simrall P. L. Co., Mt. Pleasant-Porter Fields to Mt. Pleasant-Wheeler. (11) Midwest P. L. Co. (Simrall connections) to St. Louis and Alma. (12) Midwest, 16 mi. 4". (13) Simrall, 4". (14) Simrall, 28 mi. 6". (15) Pure Oil, 9 mi. 6". (16) Pure Oil (17) (18) (19), see (5). (20) Consumers Power, 27 mi. 4". (21) Apex-Dow, 14 mi. 6". (22) (23) (24) Naph-Sol Gathering. (25) Buckeye P. L. (26) Detroit Southern P. L. (27) Pure Oil.

of "cut price" gasoline, special naphthas and high grade kerosene and engine distillates (Diesel), will have to install cracking equipment.

If a gasoline of 63 octane number or better is produced from Michigan crude or charging stocks by cracking, the products and their percentage of the stock charged are indicated in the above summary of cracking runs made on Mt. Pleasant topped crude. Nature, it appears, has played a trick on the Michigan refiners in the matter of their crude oil supply. The paraffinicity of the crude is supreme in the wrong fractions, and unimpressive where the characteristic would mean premium lubricating oils. It has been determined that Michigan straightrun gasoline contains slightly over 85 per cent pure paraffin hydrocarbons (so-called), while paraffin hydrocarbon percentages in other straightrun gasolines range as follows: Pennsylvania, 73.6 to 92.3; Oklahoma, 69.8 to 74.9; Texas, 66.0 to 70.4; California, 55.7 to 57.2. Certain Michigan crudes, however, such as those from the Porter and Crystal Fields, may provide exceptional lubricating oils, while crudes produced from the Traverse, or Napoleon sandstone, yield not only a highly paraffinic lub stock, but also a relatively high octane gasoline.

Crystal Pool Lines

Refiners who have pipe lines extending to the new Crystal Pool in Montcalm County are Roosevelt (Simrall), Pure and Mid-West. Although this field is little more than three months old, and does not yet appear to cover an extensive area, the size of the wells and the quality of the oil have caused considerable interest. The Crystal oil, while produced from the Dundee limestone, produces a gasoline of comparatively high antiknock rating, and tests indicate that a superior lubricating oil may be produced from it. Accompanying tables 1 and 2 are results of tests made on this crude oil: Gravity, 42.4° A.P.I.; flash, below room temperature; pour, below −35; B.S.&W., 0.4 per cent; viscosity at 70° F., 40 seconds; viscosity at 100− F., 37.4 seconds; sulphur, 0.52 per cent; water, 0.4 per cent; color, bright olive green.

TABLE 1.—PRODUCTS AND YIELDS FROM CRYSTAL OIL

Product—	Volume %	Gravity	Viscosity	Sulphur %	O.N.	Flash	Fire
50 octane gasoline	25.1	68.4	....	....	50.8	...	...
420 e.p. gasoline	42 6	61.0	....	0 08	24.0	...	...
Kerosene distillate	9 5	43 6	485 Th.vis.	0 09	....	194 P.M.	...
Cracking stock ..	9.0	41.4	....	....	....	...	...
Wax distillate ...	24 0	31.3	77 SU/100	....	....	355	395
Bottoms	13.8	18.9	326 Furol/122	....	....	585	650
Water	0.4	....	....	....	....	...	...
Loss	0.7	....	....	....	....	...	...

The viscosity-gravity constant of the wax distillate was 0.831.

TABLE 2—DISTILLATION TESTS (A.S.T.M.) ON PRODUCT FOR CRYSTAL CRUDE

Product:	I.B.P.	5 %	10 %	20 %	50 %	90 %	E.P.	Rec. %	Res. %	Loss %
50 O.N. gasoline	104	134	148	167	210	272	304	98	0.9	1.1
420 E.P. gasoline	113	152	171	202	284	392	422	97.9	1.1	1.0
Kero. dist....	438	451	453	456	464	484	497	97.5	1.2	1.3
Crude stock..	516	522	524	526	533	550	559	97	2.4	0.6

A description of the Michigan refineries and their development may be of interest.

Roosevelt Refining Co., at Mt. Pleasant, entered the Michigan picture with the purchase of the Michigan Central Refining Co. properties at Muskegon and moved them to the site of the present plant. The new company's 1,000-bbl. plant went on stream in June of 1930, and the capacity had been increased to 3,000 bbls. daily when fire destroyed the refinery in October of 1933. After the blaze more land was added and a complete new unit built on the new tract. On the original site a second plant was built so that today the refinery is made up of two separate and complete operating units, each with a capacity of 3,000 bbls. daily. A third installation, complete with pipe stills, towers, etc., produces rubber solvent, V. M. & P. naphtha, and "special solvent." Storage capacity at the plant is nearly 4,000,000 gallons. The company is affiliated with the Simrall Pipe Line Corp., which has gathering and main lines to the refinery or to rail heads from the Crystal, Greendale, Leaton, Porter and Ogemaw Fields. Roosevelt company officers include: C. L. Maguire, president; T. F. Caldwell, vice president and sales manager, and S. M. Fasquelle, secretary-treasurer.

The Naph-Sol Refining Co. is taking the lead among independent Michigan refiners in the production of high octane number gasoline. The company has just completed the installation of a 1,000 bbls. daily capacity cracking unit at its Muskegon refinery. This is a Dubbs installation capable of producing about 30,000 gallons on relatively good octane gasoline, or little less than 24,000 gallons of gasoline above 65 octane number.

The Naph-Sol company started in 1930 with a 500-bbl. topping unit transported from Lexington, Ky. It was not until March of the next year that the new operators began running 300 bbls. a day. Until the Muskegon Field began to decline the company ran this crude exclusively. Afterward Mt. Pleasant Field crude was brought to the plant, and still is, in tank cars. Shortly before the close of 1934 the company bought the Pure Oil pipe lines in the West Branch Field, Ogemaw County, through which a connection was made to a loading rack on the Michigan Central railroad. The company also laid a double 6-inch line from the Muskegon plant to a new tanker loading wharf at the head of Muskegon Lake in order to ship crude and refined products to and from Great Lake points. Officers of the Naph-Sol company include: Walter E. Anderson, president; J. F. Helms, vice president and plant superintendent; A. W. Penny, secretary-treasurer; Allen F. Hickey, sales manager.

Keystone Oil Refining Co., at Detroit, is a complete modern plant producing a full line of overhead and residual material from Michigan crude and has the distinction of receiving a Federal Government contract to supply aviation lubricants. In addition to the 2,000-bbl. topping plant, the company has facilities for handling 400 bbls. of lub stocks daily. The Keystone company is closely connected with the Aurora Gasoline Co., distributors for the refining unit. William Fisher is president of the Keystone company, and William E. Slaughter is president of the Aurora company and Max E. Fisher is sales manager.

Interested in Lubs

Wayco Refining Co., operating its plant on Michigan crude oil exclusively at Toledo, Ohio, is another company interested in the lubricating oil field. Recently reorganized, the personnel of the company includes Andrew G. Schlee, president; A. J. Youmans, vice president; John N. Stalker, vice president, and H. A. Eberline, secretary-treasurer.

Sweet Oil Refining Co., of Wyman, refines Michigan crude from the Traverse sandstone exclusively. The plant has a capacity of 750 bbls. a day, and runs average about 450 bbls. The company selected its name from the fact that the crude is free from sulphur and has an agreeable odor. The crude is such that it is possible to produce gasolines ranging from 52 octane number to 60 without difficulty. Following tests made on the lubricating fractions, the company has started the installation of a plant for manufacturing light summer oils. This company is headed by H. H. Rice; Max Pray is vice president and general manager; A. C. Anderson is treasurer, and H. T. Watson, secretary.

Old Dutch Refining Co. of Muskegon, was the pioneer among independent Michigan refiners, having been organized early in 1929 by four Chicagoans. The company has kept its 3,000-bbl. plant up to date, installing late in 1934 a new fractionating tower to replace the 100-foot column set up in 1929. While the principal products have been special naphthas and kerosene, the company has a large sale of gasoline and other materials. In 1934 the company increased its marketing facilities by establishing dealers in many Michigan cities and purchasing a large chain of service stations in Detroit. Among the tank trucks operated by the company are three units with a capacity equivalent to that of a tank car each. Crude is brought to the Muskegon refiners by truck fleets from the central Michigan fields. Officers of the Old Dutch company are John Borden, president and general manager; Guilford S. Turner, Jr., vice president; Willard G. Turner, Jr., secretary; G. B. Treloar, treasurer.

McClanahan Refineries, Inc., of St. Louis, is one of the latest Michigan additions. Adequate supplies for this plant are assured by the production of the McClanahan Oil Co., of Mt. Pleasant. The refinery has apparently a large crude reserve in the Porter and Ogemaw Fields. The plant equipment is of the latest fractionating tower type, and a program of steady expansion has already been laid out. Officers of the company include Walter L. McClanahan, president; Esburn Hanson, vice president; Grant L. Cook, secretary, and Arnold H. Goss, treasurer.

Superior Oil Corp., of Elsie, is making good progress after little more than a year in the field with its 1,000-bbl. plant. Crude for this plant, when road conditions permit, is trucked from the Porter Field, and the products are distributed by truck over a radius of 50 miles. The Ann Arbor Railroad which passes near the refinery is used when rains make the roads impassable. Flint and Owosso are principal distributing points. Officers are H. J. Smith, president; R. J. Gould, vice president; E. G. Guy, vice president in charge of operations; R. W. Lewis, secretary-treasurer; R. C. Guy, plant manager, and M. J. Lewis, sales manager.

Mid-West Refineries, Inc., has a well equipped plant at Alma and receives crude from the Porter Field by pipe line. The company is building a 4-inch line to the Crystal Pool. With markets expanding and a new crude source soon to be available, it is expected that the present runs of 1,000 bbls. to 1,500 bbls. will be increased to near the 2,000-bbl. capacity of the plant, with additions probable in the near future. Officers of the company are: B. J. Skinner, president and general manager; T. E. McFall, vice president; G. B. Tonkeris, secretary; F. S. Grimes, treasurer, and J. Marshall, superintendent.

Completed Program, Mineral Section, Bar Association

The completed program for the meeting of the Mineral Section of the American Bar Association to be held in Los Angeles on July 15 and 16 follows:

MINERAL LAW SECTION

Conference Room No. 1—Biltmore Hotel

MONDAY, JULY 15, 10 A.M.

P. C. Spencer, chairman, presiding.

Report of the chairman.

Appointment of nominating committee.

Report of committee to prepare and present memorial to Chester I. Long, H. O. Caster of New York City.

Address by W. R. Boyd, Jr., executive vice president, American Petroleum Institute, New York City, "Self Regulation in the Petroleum Industry."

Discussion.

Address by Charles I. Francis of Houston, Tex., "Divorcement of Pipe Lines."

Discussion.

2 P.M.

Address by Robert E. Hardwicke of Fort Worth, Tex., "The Rule of Capture and Its Implications as Applied to Oil and Gas."

Discussion.

"Unit Operation Agreements on Public Lands," by George W. Holland, senior attorney, Office of the Solicitor, U. S. Department of the Interior, and LeRoy H. Hines, assistant legal adviser, Office of the Solicitor, U. S. Department of the Interior, to be presented by Herman Stabler, chief, Conservation Branch, U. S. Geological Survey, Washington, D. C.

TUESDAY, JULY 16, 10 A.M.

Report of nominating committee.

Address by J. Howard Marshall, Petroleum Administrative Board, Washington, D. C., "Federal Control of the Oil Industry."

Discussion.

Address by Patrick J. Hurley, Oklahoma.

Discussion.

Oklahoma City Franchise

Oklahoma City voted the Oklahoma Natural Gas Co. a new franchise Friday, 6,974 to 4,732. The franchise is for 25 years. It levies a city tax of 2 per cent on gross receipts and provides the city shall have the opportunity every five years to buy the plant.

The company has operated without a franchise since October 24, 1934, after losing a franchise election in the autumn of 1931 by 4,300 votes. The present rate is 45 cents.

Asphalt and Road Oil Outlets Offered by Work Relief

By C. O. WILLSON

NEW YORK, July 2.—The oil business, due to the Emergency Work Relief Act, has opportunity to expand greatly its outlets for asphalt and road oils during the next two years. While there is still some confusion as to how this $4,800,000,000 fund will be distributed, it appears that the allocations for highways construction coupled with Federal Aid and state appropriations exceed one billion dollars in the two years.

Due to the nature of the work to be done under all classes of appropriations, the asphalt and road oil manufacturers occupy a strong position and it has been estimated there is a potential market of double the sales of the past three years which have averaged approximately 24,000,000 bbls. annually. Whether part or all of this increased market is realized will depend largely on whether the industry takes advantage of its position and secures consideration for its products in this mammoth construction program. The following appropriations for highway, road and street construction have either been made or appear assured for the next two years.

Emergency Work Relief	$ 400,000,000
Unexpended from Hayden-Cartwright Act	100,000,000
Additional state funds	100,000,000
Regular Federal Aid	250,000,000
State appropriations to match Federal Aid	250,000,000
Total	$1,100,000,000

Of the Emergency Work Relief total, $200,000,000 has been set aside by the President for highway construction and $200,000,000 will be appropriated later for the same purpose.

In addition $200,000,000 has been set aside for grade crossing elimination with another appropriation for the same amount to be made later. It is thought this work will provide a limited outlet for certain grades of asphalts and road oils although this will be of minor importance when compared to the main highways and street construction programs.

Additional Possibilities

Those who are making a study of the $4,880,000,000 work relief appropriation believe there are other phases of the program in addition to the direct features in which asphalt and road oil can participate as necessary materials. The main purpose of the Emergency Relief Work Act is to provide work for those on relief. Those in charge of the fund are inviting cities, counties, states and other political units with large relief rolls to submit construction programs which can be approved under the work relief law and appropriations made from the fund. With emphasis placed on the maximum amount of relief labor per dollar expended, it is contended repair or construction of highways and streets is a logical method for cities, counties, etc., to spend a large percentage of this money now being made available to them. Road oils and asphalts fit into any expenditure of this type.

In this connection the point is emphasized by those closest to the relief situation that those industries will benefit most which take the initiative and show federal, state, county and city officials just how their products can be used under the limitations set up by the act. Certain changes in the regulations will have to be made to permit the carrying out of the relief program and here again individual industries have the opportunity to strengthen their positions by making definite recommendations involving the utilization of their products.

With particular reference to the oil situation one company official points out much is to be gained by discussing conditions with those in charge of relief work. Most of these relief officials have only a vague conception of how they are, in effect, to create work for those on relief. They will welcome suggestions enabling them to offer definite plans to those in charge of appropriations.

Definite limitations have been placed on how the first $200,000,000 allotment for highways projects is to be spent. The principal features are: 90 per cent of labor must be taken from relief rolls; $1,400 total expenditure for labor, materials and incidentals per man per year; not less than 25 per cent of apportionment must be expended for secondary projects which must be located off state or federal road systems, except where state mileage includes all principal county roads.

It is understood that the $1,400 expenditure provision will be rescinded or amended. It is proposed that the $1,400 include labor involved in preparation of surfacing materials, including transportation costs to the point where the materials are to be applied. Minor changes of this character would greatly increase the number of highway and street construction programs that could use bituminous materials. The main problem at this time, is to work out means of using these materials under all types of work relief, applications, which will vary widely, depending largely on geographical location and local conditions. Much of the work will be done on a force account basis. The following table gives appropriations by states for highways, roads and streets under the first $200,000,000 as announced by the Federal Bureau of Public Roads which will have charge of this work and also the balance appropriated from the Hayden-Cartwright Act:

State	Highways, Roads and Streets	Balance Hayden-Cartwright Act
Alabama	$4,151,115	$2,129,920
Arizona	2,569,841	1,320,967
Arkansas	3,352,061	1,714,024
California	7,747,925	3,966,102
Colorado	3,396,263	1,743,002
Connecticut	1,418,709	727,434
Delaware	900,310	461,697
Florida	2,597,144	1,330,671
Georgia	4,988,967	2,556,745
Idaho	2,222,747	1,138,743
Illinois	8,694,609	4,460,700
Indiana	4,941,255	2,544,481
Iowa	4,991,664	2,559,180
Kansas	4,994,975	2,558,827
Kentucky	3,726,271	1,909,155
Louisiana	2,890,429	1,481,966
Maine	1,676,799	855,793
Maryland	1,760,738	906,029
Massachusetts	3,262,885	1,676,227
Michigan	6,301,414	3,226,284
Minnesota	5,277,145	2,712,175
Mississippi	3,457,552	1,770,113
Missouri	6,012,652	3,086,870
Montana	3,676,416	1,884,867
Nebraska	3,870,739	1,982,152
Nevada	2,243,674	1,151,128
New Hampshire	945,226	484,731
New Jersey	3,129,805	1,610,429
New Mexico	2,871,397	1,470,850
New York	11,946,377	6,663,960
North Carolina	4,726,173	2,420,470
North Dakota	2,867,245	1,469,482
Ohio	7,670,815	3,932,506
Oklahoma	4,550,670	2,342,590
Oregon	3,038,642	1,548,907
Pennsylvania	9,347,797	4,795,394
Rhode Island	989,298	507,286
South Carolina	2,702,012	1,385,477
South Dakota	2,976,454	1,523,821
Tennessee	4,192,460	2,151,495
Texas	11,989,250	6,146,626
Utah	2,067,154	1,066,345
Vermont	924,306	474,002
Virginia	3,652,667	1,882,693
Washington	3,026,161	1,553,206
West Virginia	2,231,412	1,140,167
Wisconsin	4,823,884	2,470,918
Wyoming	2,219,155	1,143,856
District of Columbia	949,496	474,859
Hawaii	926,033	486,921
Eng. & Adm. Res.	5,000,000	
Total	$200,000,000	$100,000,000

Regular Highway Construction

The limitations imposed on highway construction under the work relief act do not apply to regular federal and state appropriations. In this work the sponsors of bituminous highway and street construction have an excellent opportunity to widen their market. The trend in highway construction now is to secure the greatest mileage possible giving satisfactory service for a particular use. Emphasis is being placed on secondary and farm to market roads as distinguished from the expensive super-highway systems which have absorbed a large part of expenditures in the past.

The asphalt industry has made some progress in expanding its markets with an increase in 1934 over 1933 while the cement road construction decreased. Surveys made indicate bituminous materials can be used on a large part of the highway programs which have been agreed upon for actual construction with federal and state funds in the next two years. This is true regardless of whether the expenditure is to be a few thousand dollars a mile for secondary roads or the more expensive construction on highways which handle heavy traffic throughout the year.

This situation was clearly shown recently in the open letter to the president of the Portland Cement Association by J. E. Pennybacker, managing director of The Asphalt Institute, New York City. This letter, which has created wide attention in highway construction circles, presented data from official reports including those of the cement association showing the strong competitive position of bituminous materials in highways construction, based on initial cost and maintenance. In outlining his reasons for making public the asphalt industry's position following publication of claims for cement road construction, Mr. Pennybacker said:

"With $500,000,000 of taxpayers' money in Federal appropriations being spent for roads of all kinds under the relief act, the public deserves a chance to judge between the claims of an industry and the latest available official facts on the cost and service highways. These claims by the Portland Cement Association, if correct, would question the wisdom of the highway engineers who build large mileage of bituminous types of highway. This comment is made in view of the fact that a total of 18,184 miles of roads finished during 1934 on state highway systems were bituminous surfaced or treated against 3,714 miles of portland cement concrete, as reported by the official organ of the American Association of State Highway Officials."

Decision Confirmed in Famous Dubbs-Root Cracking Suit

Universal Oil Products Co., owner of the Dubbs cracking process, has won its suit against the Root Refining Co. for infringement of two important Universal patents and for damages.

The three judges sitting in the United States Circuit Court of Appeals of the Third Circuit, in Philadelphia, on June 26 handed down a unanimous opinion in favor of Universal.

This decision confirms the finding of Judge John P. Nields in the Federal District Court at Wilmington, Del., on April 27, 1934.

Judge Nields held that the two Universal patents in suit were valid and that they were infringed by the operation of so-called Winkler-Koch cracking units in the Root Refining Company's plant at El Dorado, Ark. The case was appealed by the defendant.

The decision of the Court of Appeals affirms the decree entered by Judge Nields enjoining further operation of the infringing units, and the case will be referred to a master for an accounting and for the assessment of damages.

The two patents in the suit are No. 1,392,629, issued to Carbon P. Dubbs, October 4, 1921, generally referred to as the clean circulation patent, and No. 1,537,593, issued to Gustav Egloff, May 25, 1925, known as the multiple coil or selective cracking patent, owned by Universal Oil Products Co.

May Force California Producers to Restrict Production

By L. P. STOCKMAN

LOS ANGELES, Calif., July 1.—California oil producers are facing a critical situation due to continued overproduction. Large buyers have indicated they will severely reduce the posted price of crude oil unless operators conform with curtailment and bring daily production down to the prescribed allowable at once. Excess production has demoralized the refined oil market in southern California and marketers realize they cannot compete with overproduced crude that is sold to refiners below the posted price. During the past week, production has been cut back under the threat of lower crude oil prices. The Central Proration Committee has given the State an allowable for July of 512,700 bbls. per day, the same as allocated to the State in June.

Despite the fact that a price cut appears imminent, it is possible the great majority of conservative operators will heed the warning and thus prevent the reduction in crude oil prices to 50 cents per barrel which will be the basis for refinable crude if a cut is necessary. Operators, under a recent ultimatum, were given until July 1 to get production down to the established level. Production probably will be back up again early in July because of the practice of operators in several fields to produce at a high rate during the early part of each month and then cut back production the last week or 10 days. There are several operators who will continue to overproduce and no amount of persuasion will convince them that they should conform with curtailment. Most of them have their own small refineries. The response of numerous operators to the plea of the Central Committee to curtail is very reassuring and there is some reason to be sanguine over the outcome.

Compulsory Action

The Central Proration Committee has been in a quandary for the past several weeks because it is powerless to enforce curtailment due to the lack of adequate state legislation. Within the past few days, however, state officials have indicated a disposition to take the bull by the horns and attempt to force regulation upon the small minority who have defied regulation. Umpire Pemberton has informed operators that, "officials of the State have given me assurance that suits will be instituted at once against excess producers in several fields. These suits will be based on various grounds, and will be prosecuted to the limit."

It has been tentatively agreed by state officials that proceedings will be instituted against certain operators in the Playa Del Rey Field on the grounds that they are violating the California Gas Conservation law by willfully blowing natural gas to the air and if this action is prosecuted it is logical to assume it will prove effective as this statute has been declared legal. In addition, state officials are contemplating action against operators holding state tideland permits and will proceed on the basis that if these operators weaken the price structure by overproducing they will jeopardize the State's interest in tideland deposits and thus the courts will be able to issue injunctions. If this allegation holds, the State then will be able to proceed with further action against all operators on the basis that their overproduction is likewise jeopardizing the State's interest.

Allowables

California is given a potential daily production of 1,696,661 bbls. of which the Kettleman North Dome is given credit for 486,610 bbls. The pipe line capacity out of Kettleman North Dome is inadequate to handle this enormous production and therefore the field is not eligible for this high potential. I doubt whether one can find more than a limited number who really believe that California can produce 1,696,661 bbls. of crude oil per day for a period of even one month.

The potential daily production assigned to California is of special significance because the pipe line capacity out of each field and the limited amount of steel tankage makes it impossible for operators to attain their objectives.

There are certain exceptions to the claim that the State cannot make its prescribed potential and one of these is Long Beach. This field was given an allowable of 74,432 bbls. per day during May and for more than a week the field produced at the rate of 76,000 bbls. per day. Santa Fe Springs is also rather well in line and should be able to exceed its potential although one or two operators will not be able to even approach their respective allowables. Elwood, San Miguelito, Santa Barbara Mesa and a number of other minor fields can make their established potentials. The only exceptions are in the cases of major fields where the allotment is entirely out of line.

The Central Proration Committee is showing wisdom in keeping the potential daily production of Playa Del Rey down to a minimum because it is extremely doubtful whether this field could produce 50,000 bbls. per day for any great length of time. This field is given a potential of 86,083 bbls. per day. Mountain View is given a potential of 111,825 bbls. per day. This is another field with a limited thickness of oil sand and it is highly improbable whether this field could reach its allowable. As a matter of fact, this field would be considered a big success if it could produce 75,000 bbls. per day over a normal period of time.

A few days ago, Umpire Pemberton told some operators that within 18 months there would be a famine of crude oil in California. This might appear to be rather premature to many and it will be if operators conform with curtailment. One cannot foresee the demand 18 months in the future with any degree of accuracy because there are too many variable factors in the problem but we may be sure that crude will not be as plentiful as at present unless new prolific fields are discovered. J. E. Koeberle, a petroleum engineer of Los Angeles, threw some interesting light on the situation this past week. Taking the leading seven fields in the Los Angeles Basin he showed that this group of fields produced 32,276,709 bbls. of water and 28,347,575 bbls. of oil during the last six months of 1934. Comparable data is not available for the first half of 1935 but it will be on about the same relative basis. Long Beach produced 11,321,789 bbls. of crude oil and 14,476,033 bbls. of water which represents 43.9 per cent oil and 56.1 per cent water. Santa Fe Springs is credited with 7,093,740 bbls. of crude oil and 6,253,571 bbls. of water while Huntington Beach produced 4,128,268 bbls. of crude oil and 4,292,054 bbls. of water. The Montebello Field produced 2,901,837 bbls. of water and 1,064,083 bbls. of oil while Playa Del Rey produced 2,144,700 bbls. of water and 1,465,217 bbls. of crude oil. This data is for the last six months of 1934 but it is quite possible that we may have shown the same ratios during the first half of 1935. This is further tangible proof that California potentials are out of line and that we shall not find crude oil as plentiful in 1936 as it is at present. There will not be any famine but at the same time we may be looking for additional reserves.

Study Direction of Fluid Movements in the Oil Sands of Illinois Area

In his paper on "Direction of Fluid Movements in Illinois Oil Sands," Dr. A. H. Bell, geologist and head of the oil and gas division of the Illinois State Geological Survey, Urbana, presented before the third annual Petroleum Conference of Illinois-Indiana at Robinson, Ill., the results of a study of fluid levels in eight Illinois oil pools subject to natural water flooding.

In recovering oil from an underground reservoir, natural energy is utilized as long as it is available. The southwestern Illinois oil field during the past 30 years has produced more than 400,000,000 bbls. of oil as well as enormous but unmeasurable quantities of natural gas and brine. During this process the reservoir pressures have been gradually lowered and the natural gas depleted until at present the rate of natural gas production is very low. In many areas the major motivating agent in driving oil toward wells is no longer gas, but water under hydraulic pressure.

The importance of bottom hole pressure measurements as an aid in the study of reservoir conditions, in the proper spacing and location of wells, and the control of production methods, has been well demonstrated in flush fields during the past five years. An approximate method for determining bottom hole pressure in stripper wells is to measure the depth to the top of the fluid column after the well has been allowed to stand unpumped for the period necessary for the fluid to rise to an equilibrium level.

About a year and a half ago, the State Geological Survey arranged with a number of the Illinois operators to measure the fluid level in wells whenever the rods or the rods and tubing were pulled for other purposes so the measurement could be made at least possible expense. Up to June 1, 1934, 193 measurements were reported and since that time 91 additional measurements were made. It is with these data and the interpretations that can be made from them that this paper deals.

Contour maps of fluid levels were shown for the areas studied, and for some of them two or three maps, showing fluid levels at successive stages were available.

Most of the oil pools in which fluid level studies have been made fall into two general classes: (1) Those in which water is encroaching around the edges of the oil-producing area, and (2) those in which water is spreading outward from a central area (here called for convenience "central floods"). There is also an intermediate class in which the fluid movement appears to be mainly in one direction across the oil-bearing area. This may be considered a special edgewater encroachment.

The flood areas described and illustrated were Partlow, Applegate, Bridgeport, Buchanan, and McClosky flood areas in the southeastern Illinois Field, and the Sandoval, Carlyle, and Dupo areas in western Illinois. Of these, the Buchanan, Sandoval, Bridgeport, and Carlyle appear to be of the edgewater encroachment type, and Applegate, Dupo, McClosky, and Partlow of the "central-flood" type.

Studies of reservoir pressures are only part of the data necessary in considering plans for the use of improved recovery methods. In view of the wide gaps in our knowledge of underground conditions in Illinois oil fields, it seems worth while that such studies should continue.

Runs to East Texas Refineries Increase 9,600 Barrels

FORT WORTH, Tex., July 1.—East Texas runs to refineries increased by 9,600 bbls. per day this week over the previous week, which showed a 1,500-bbl. per day increase. Consequently truck movements within the State have been increasing. More refineries in the field have been starting during the past week or two. This week there were 31 operating, running an average of 57,650 bbls. per day to their stills, far above the daily allowable oil these plants are connected to. Seven are operating without tenders. Overproduction now is estimated at from 30,700 to 32,000 bbls. per day.

WEEKLY TANK CAR SHIPMENT REPORT
(Week ending 12:01 a.m., June 23, 1935)

	Cars	Gallons
Gasoline	588⅝	4,762,873
Fuel oil	181	1,688,392
Residuum	8	64,993
Distillate	66	532,410
Casinghead gasoline	184	1,571,917
Kerosene	35	282,461
Gas oil	50½	403,388
Naphtha	2	16,120
Topped crude	29	285,668
Butane	1	10,713
Total	1,145	9,618,933

Shipped under federal and state tenders:	No. cars
Interstate	569
Intrastate	115
Coastwise	313
Total	997
Shipped under state tenders only:	
Intrastate movement	129
Shipped under injunction:	
Intrastate movement	19
Total	1,145

Railroads have been paying 50 cents per barrel for fuel oil on which state tenders were granted and 60 cents for fuel oil carrying a clear writ from the Federal Tender Board. They are now ceasing purchasing the former and taking only oil on which federal tenders are granted, much of this oil being moved interstate and therefore under the jurisdiction of the Federal Tender Board.

Unloading Welded Tanks, Tide Water Refinery

Tanks shown in view are being unloaded from barge at Bayonne, N. J., refinery of the Tide Water Oil Co. They are said to be the largest tanks ever welded at a tank plant and transported to refinery site for use. The tanks are 30 by 42 feet weighing 35 tons each with a capacity in excess of 5,000 bbls. The method of welding was done at the Staten Island plant of the Buffalo Tank Co. The tanks are to be used for the storage of lubricating oils. Four additonal tanks 20 by 42 feet are being welded for use at the Tide Water refinery.

New Airplanes Demand 100 Octane Number Motor Fuel for Starting

Marked improvement in the take-off of passenger airplanes by the use of gasoline of ultra-high anti-knock quality is a probable development of the near future, according to Dr. Graham Edgar, vice president and director of research of the Ethyl Gasoline Corporation.

A commercial interest has developed in the past few months for gasoline of 100 octane value. The high quality fuel is being used in experiments on take-offs and landings. Its quick power pickup gives the pilot surer control of his plane when the speed is low. Until this spring, 87 octane gasoline was the highest quality used for commercial take-offs.

Dr. Edgar predicts that this new market will induce the larger oil companies to intensify their research on high octane gasoline. He points out that while expensive trick fuels of ultra-premium quality have been used to set speed records and in experiments where cost was a comparatively minor factor, much intensive research must be done before such gasoline can be produced at costs practicable for commercial flying.

"I suggest that the new fuels of 100 octane value or more can most easily be built up synthetically. The molecules of petroleum may be broken down into their atoms and then rebuilt into fuels of high anti-knock value.

"Synthetic fuels of necessity will be more expensive than those produced by simple distillation methods. They will, therefore, only come into wide commercial use if their advantages in the way of power production possibilities are great enough to outweigh their extra cost.

"One important fact to remember is that fuel cost should be estimated on a 'cost per ton-mile of pay-load' basis rather than on a cost per gallon basis. If fuel of extremely high anti-knock value permits a sufficient power increase, the cost per ton-mile of pay-load may be lower even if the cost per gallon is doubled."

Doctor Edgar, who devised the octane number scale for registering the anti-knock qualities of gasoline in 1926, declares that modern aviation fuels have improved beyond the point where his scale is any longer a definite measuring rod for ultra-premium fuels. The octane scale takes as zero the hydrocarbon heptane, which has a greater tendency to produce knock than any commercial gasoline.

Another hydrocarbon, iso-octane, which had a higher anti-knock quality than any fuel used in 1926, was taken as 100. The anti-knock qualities of commercial gasoline were measured by mixing iso-octane and heptane until the fuel was duplicated. For instance, 87 octane gasoline, the best aviation fuel now in use, is the equivalent of a mixture containing 87 per cent iso-octane and 13 per cent heptane.

"The latest experiments, however, are being done with pure iso-octane which has been further improved by the addition of tetra-ethyl lead," Doctor Edgar explains. "The use of tetraethyl lead raises the anti-knock quality of iso-octane beyond the reach of present-day measuring scales.

"In tests with experimental engines, leaded iso-octane has been shown to be capable of developing at least 34 per cent more power than octane itself. The size of an octane number increases very rapidly at the upper end of the scale, however, so that the measurement in terms of octane numbers is not definite. At 34 per cent increase the capacity limit of the supercharger was reached without having developed a knock in the engine.

"Such passenger planes use the high octane gasoline until they have attained altitude and set their course. Five minutes before reaching an airport the 87 octane tank is turned on again to give more power and control during the landing."

T. P. Thompson, Jr. Is Re-elected Penn. Grade President

OIL CITY, Pa., July 1.—T. P. Thompson, Jr., oil producer and mayor of Bradford, was elected president of the Pennsylvania Grade Crude Oil Association for another year at a meeting of the organization's directors.

Other officers elected were John A. Beck, Pennsylvania Refining Co., Butler, vice president; S. Messer, Quaker State Oil Refining Corp., Oil City, treasurer; N. H. Weber, Pure Oil Co., Chicago, recording secretary; Fayette B. Dow, Washington, D. C., vice president and general counsel; J. E. Moorhead, Oil City, executive secretary, and Hamilton W. Smith, Oil City, assistant secretary.

In addition to Messrs. Thompson, Beck, Messer, Weber and Dow, the following will serve as directors.

H. D. Atha, Logan, Ohio; E. C. Breene, Oil City; W. J. Brundred, Brundred Oil Corp., Oil City; W. F. Clinger, Clinger Gas & Oil Co., Tidioute; E. M. Craig, Freedom Oil Works Co., Freedom; Carl Daugherty, Butler; J. D. Dinsmoor, Dinsmoor & Co., St. Marys, W. Va.; Forest D. Dorn, Forest Oil Corp., Bradford; E. C. Emery, Bradford; J. P. Flynn, Reno Oil Corp., Sistersville, W. Va.; Charles Huff, Preston Oil Co., Columbus, Ohio; Otto Koch, Kendall Refining Co., Bradford; Harry R. Lewis, Conewango Refining Co., Warren; H. A. Logan, United Refining Co., Warren; David B. McCalmont, Franklin; John McCoy, Columbus, Ohio; Parker Melvin, Towne-Melvin Oil Co., Bradford; F. E. Richart, Wellsville, N. Y.; Noel Robinson, Tide Water Oil Co., New York City; C. L. Suhr, The Pennzoil Co., Oil City; D. J. Sweeney, LeSeur Oil Corp., Buffalo, N. Y.; S. M. Vockel, Waverly Oil Works Co., Pittsburgh; Paul Zook, Sloan & Zook Refineries, Warren.

E. V. Weber Resigns

WASHINGTON, D. C., July 1.—Resignation of E. V. Weber, of Cincinnati, Ohio, as president of the National Oil Marketers Association is announced today by N.O.M.A. national headquarters.

Pending the selection of a new president, the executive duties of that office will be discharged by Clarence E. Bauer, an independent oil jobber, of Louisville, Ky., the vice president.

Unretouched Photograph

LOOK *at the* INSIDE—

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Work a little experiment now, and learn once and for all whether or not Tube-Turns are the fittings you want to buy! Here's how: Cut one in half, as shown in the photo. "Mike" the walls. You'll see that Tube-Turns are (1) uniform in wall thickness at points—no thinning of the back wall, where strength is needed; no buckling of inner wall, where *smoothness* is needed . . . . You will see (2) that Tube-Turns line up with the pipe on *both* inside diameter *and* outside diameter—which is obviously impossible where wall-thickness is not uniform . . . . You'll see (3) that the effective radius of Tube-Turns is actually 1½ times the nominal pipe diameter—is *not* reduced by straightened ends . . . . You'll see (4) that Tube-Turns are *NOT* merely pipe bends, but are as smooth and as uniform and as dependable as straight pipe. ● Don't be confused by outside appearances. Cut up a Tube-Turn *and see the difference for yourself!* Tube-Turns, Incorporated, 405 Herald-Post Building, Louisville, Ky.

TUBE-TURNS

NEWS FROM FOREIGN LANDS

Japan

The total demand for all petroleum products in Japan amounts to approximately 50,000 bbls. daily according to recent government data. This total is based on actual consumption the latter part of 1934 and the fore part of this year and does not include part of the fuel oil consumed by the navy. Consumption has been showing a steady increase in recent years with a 16 per cent gain in 1934 over 1933. The following table gives the consumption by products for 1934 and 1933 (data in barrels):

	1934	1933
Gasoline	5,287,900	4,576,600
Kerosene	1,263,000	1,180,600
Gas oil	1,223,600	1,096,900
Lubricating oil	1,713,600	1,337,000
Diesel oil and fuel oil	8,764,900	7,644,000
Total	18,342,100	15,815,100

It is expected that the consumption of motor fuels will show another gain in 1935 over 1934. The government is encouraging the manufacture in Japan of low priced cars which will enable more family cars to be owned and operated. At present the bulk of the demand for motor fuels comes from owners of taxicabs and other types of commercial vehicles. The large fuel oil demand is accounted for by the requirements of the Japanese navy. It is said that in addition to the consumption indicated in the above table large quantities of fuel oil have been purchased over the past two years for the navy and run to storage as a reserve supply. In regard to stocks one of the regulations promulgated last year by the government requires importers to keep stocks on hand to supply six months' requirements in addition to the regular working storage. Attempts are being made at this time to secure amendments to this regulation.

The government data show that Japan is to a large extent dependent on outside sources of supply for the petroleum products consumed within its boundaries. The country's crude oil production including that obtained from Taiwan (Formosa) accounts for only 6 per cent of the total demand. Refineries located in Japan running approximately 18,000 bbls. of crude oil daily to their stills refine this crude oil and imported supplies so that they furnish about 36 per cent of the total requirements. The following table shows sources of supply based on 1934 operations (data in barrels):

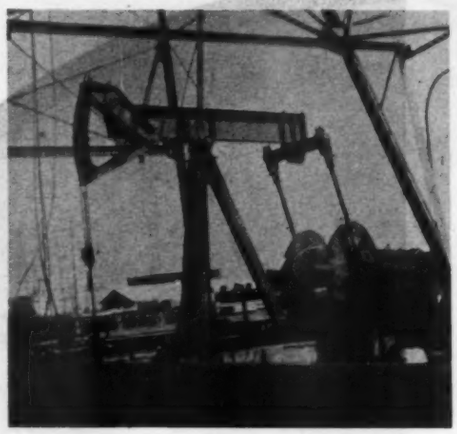
	Domestic crude	Imported crude	Imported refinery products	
Gasoline	291,900	2,228,800	2,988,200	
Kerosene	95,200	375,200	699,200	
Gas oil	286,200	1,032,500	.....	
Lubricating oil	292,600	1,166,900	242,700	
Diesel oil and fuel oil	187,600	854,700	7,889,900	
Total	1,153,600	5,658,100	11,819,500	

The bulk of the imported crude oil and refinery products are secured from private oil interests operating in the Dutch East Indies and the United States. The foregoing figures do not include Korea although Japanese refiners furnish part of the products consumed in that country.

India

Sir John T. Cargill, chairman of the board of the Burmah Oil Co., Ltd., at the annual meeting last month in London, indicated that the company was prepared to meet price situations which have developed in parts of India from time to time over the past two years due to sales efforts of new companies. Regarding this situation Sir John T. Cargill, who has been head of the Burmah operations for many years, said in part: "When we met last year the petroleum industry was still seriously exercised by the problem of disequilibrium between supply and demand and I reminded you that the disequilibrium was compelling us to still sterner measures of defense against imports of distress oils from other countries threatening the outlets essential in our home market in India, to the maintenance of the scale of our operations and of the employment of Indian nationals dependent on them. These measures secured their objective at a cost of which the accounts before you give some reflection.

"The imports in question have been oil not only unprofitable to those who produce it but also those who tempted by its distress price, have imported it, have made nothing and will make nothing from these speculative purchases."



Pumping unit of the Venezuelan Oil Concessions Ltd., in the Lagunillas field

Rumania

Crude oil production in Rumania for the first four months of this year was running approximately 10,000 bbls. daily more than during the same period in 1933. The production for the four months this year was 2,809,868 tons, or 16,669,076 bbls., and for the same period last year, 2,629,873 tons, or 18,400,111 bbls.

Practically all of the increase is accounted for by the gain in production of the Dambovitza region. Production there for the first four months totaled 1,509,849 tons, or 10,568,943 bbls., a gain of 150,866 tons, or 11 per cent over the first four months of 1933.

Germany

Germany, based on data for the first four months, is having one of the largest increases in demand for petroleum products of any European country. The government's reports for the first four months show that a total of 141,078 tons of crude oil (approximately 8,200 bbls. daily) was produced during that period, a gain of more than 35 per cent over the same period in 1934.

This gain in crude oil production has not kept pace with the increase in domestic demand for petroleum products and it has been necessary to increase imports of refinery products. The imports of crude oil have had only a small decrease so far this year, but the imports of all refinery products with the exception of kerosene have shown a substantial increase. The following table gives the imports for the first four months of 1935 and 1934 (data in tons):

	1935	1934
Crude oil	57,442	59,585
Gasoline	342,098	334,224
Kerosene	32,169	37,675
Gas oil	201,820	163,720
Lubricating oil	146,836	92,389
Fuel oil	76,473	58,787
Total	850,838	746,380

Mexico

The following values for production and exports taxes for June have been established by the government (calculated in silver at exchange of 3.60):

Values

	Silver pesos per cubic meter	U.S. currency
Fuel oil	27.17	$1.20 per bbl.
Gasoline	76.56	.0805 per gal.
Kerosene	48.79	.0513 per gal.

Production Taxes

	Tax per c.m.-pesos	Tax in U.S. currency
Crude (sp. gr. 0.93 — Be. 20.38)	3.140	$0.13866 per bbl.
Crude (sp. gr. 0.96 — Be. 15.68) or heavier	1.907	.08422 per bbl.
Fuel oil (sp. gr. 0.95— Be. 17.21)	2.934	.12957 per bbl.
Gasoline (crude)	3.062	.00322 per gal.
Gasoline (refined)	1.531	.00161 per gal.
Kerosene (crude)	2.927	.00308 per gal.
Kerosene (refined)	1.464	.00154 per gal.

The production tax on fuel oil will vary approximately .01062 per barrel for each degree of specific gravity above (deduct) or below (add) 0.95 specific gravity.

The production tax on light crude will vary approximately .01137 per barrel for each degree of specific gravity above (deduct) or below (add) 0.93 specific gravity.

Export Taxes

Note: As export taxes are payable in silver at par, to make calculations in U. S. currency, take figures given below, multiply them by 2 and divide by rate of exchange at time of payment.

	($1 for 2 pesos) U.S. currency
Crude (sp. gr. 0.93 = Be. 20.38)	$0.07949 per bbl.
Crude (sp. gr. 0.96 = Be. 15.68) or heavier	.04928 per bbl.
Fuel oil (sp. gr. 0.95 = Be. 17.21)	.05962 per bbl.
Gasoline (crude)	.00472 per gal.
Gasoline (refined)	.00189 per gal.
Kerosene (crude)	.00151 per gal.
Kerosene (refined)	.00057 per gal.

France

Crude oil imports into France established a new record in April with a total of 435,852 tons, or 3,050,964 bbls., according to government report. This amounts to 101,600 bbls. daily and indicates that French refineries have passed the goal of 100,000 bbls. daily in crude runs to stills.

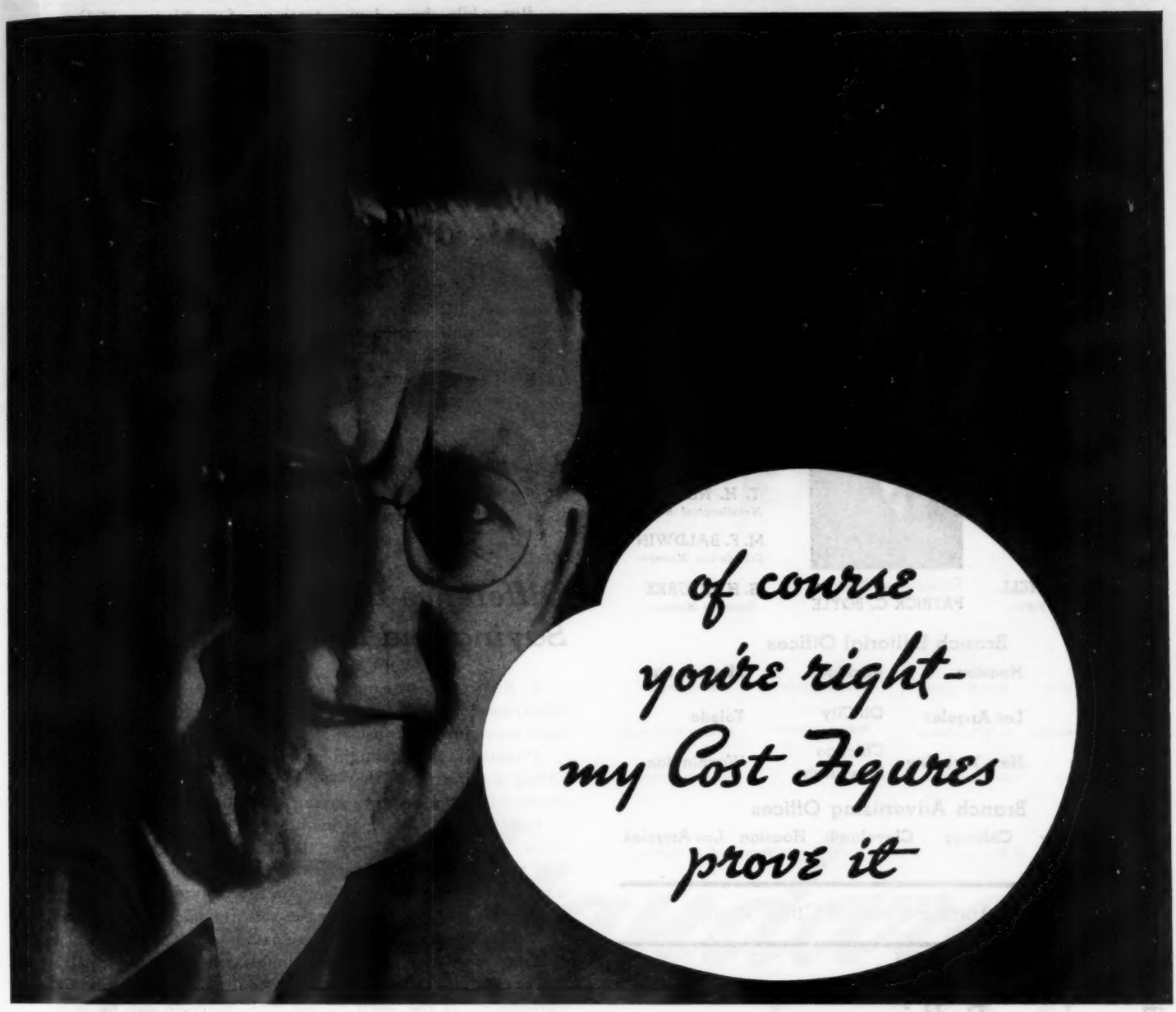
For the first four months of this year crude runs to stills averaged 93,600 bbls. daily, which compares with 71,100 bbls. daily for the same period in 1934. The following table gives the imports for the four-month periods (data in tons):

	1935	1934
Crude oil	1,605,772	1,219,112
Fuel oil	152,945	117,990
Motor fuels	193,497	408,807
Gas oil	45,195	124,569
Lubricating oil	33,958	52,723
Road oil	6,643	12,353
Kerosene	5,067	17,534
Other oils	7,213	5,476
Total	2,050,290	1,958,564

Great Britain

The Anglo-American Oil Co. [Standard Oil Co. (New Jersey)] is having a tanker built in England especially designed to handle lubricating oils. The tanker which will have a capacity of approximately 65,000 bbls., will have 27 separate compartments or tanks so that many different grades of oil can be transported at one time.

To do away with the necessity of water ballast in the tanks on return trips which is always undesirable in the movement of lubricating oils, the tanker is especially designed. It is constructed with a deep double-bottom ballast tank, located under the cargo tanks.



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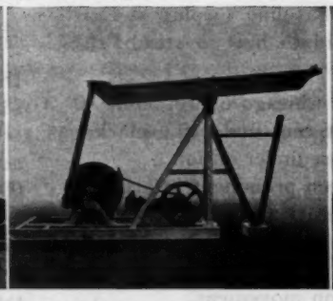
Type C intact, being moved

Type B, with tug rim for bull wheel drive



Type B, front view

Type B, rear view

the OIL AND GAS JOURNAL

Producing Refining Natural Gasoline Pipe Line

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Treachery Balking Stabilization Plan

It has long been suspected and is now definitely known that a distinct effort to wreck what has been accomplished towards stabilization of the oil industry is being made by traitors within the ranks of the supposed leaders of the movement.

Here is a sample of why it has been so difficult to stabilize the gasoline market.

A refinery in East Texas had been shut down since December, 1933, so there was no question of its crude supply. Nevertheless, a large company has just sold to that shut down refinery 50,000 barrels of crude which encouraged and permitted that plant to open up and start operations, adding to the gasoline surplus in East Texas which larger companies have had to buy to steady the market.

This same company sold, through its Chicago office, 35 or 40 cars of off-quality gasoline at a quarter cent under the market and it is understood there are 50 cars more under option.

Yet officials of this company have been prominent in and out of Washington in proclaiming the necessity for stabilization ot the industry, attending conferences, making speeches, and generally seeking to convey the impression that their company was heart and soul a leader in the stabilization movement.

But while these demonstrations of vocal co-operation were being staged for the benefit of the public and of their associates in the industry, representatives of this company were surreptitiously giving the lie to the pledges and utterances of their officials by dumping crude and unloading off-color gasoline below the market.

It is just this sort of double dealing that is blocking recovery in all lines. Honest difference of opinion, even open opposition can be understood and accounted for, but it is a totally different thing to guard against those who speak fairly only to deceive.

What a spectacle is thus presented, men leaving a conference after advocating and promising to support a policy of fair competition and simultaneously resorting to the very tactics which undermine all efforts for stabilization.

Responsible companies who have been co-operating in the effort to stabilize the industry for the protection of all have reason to resent such practices which reveal not only total lack of co-operation but actual assistance to the price cutting element.

Usually chiseling has been charged to parasites and intruders in the business but it is evident that some large companies can resort to tactics just as small, whatever they think they can gain by it for the time being.

Difference Between Saying and Doing

F. R. Frye, petroleum engineer of the Michigan conservation department, put the situation bluntly before the operators of that state assembled to consider curtailment.

Producers can maintain proration if they want to, he said, adding significantly, "they say they want to, but there is considerable difference between saying so and actually doing it."

Generally the saying is in the open but the cheating is under cover. The idea seems to be to encourage others to curtail and then take advantage of it. But the day when that sort of trickery was counted smart is about gone in this country. More and more are coming to recognize it as the act of a sneak and a cheat.

A mass meeting of producers unanimously approved a plan for voluntary proration until the Oil and Gas Association of Michigan can present its petition for state control of production to the legislature. If the spirit of the mass meeting can be lastingly impressed upon the individual producers, if they can be made to see personally, as well as collectively, that proration is the best program for all of them, Michigan can conserve its resources and its producers will have substantial cause for congratulating themselves on their wisdom and honesty to each other.

Two Millions a Day Gasoline Tax Bill

Two million dollars a day is what American gasoline consumers paid in 1934 over and above the cost of the motor fuel, according to the tax reports just made public by the United States Bureau of Public Roads.

State gasoline taxes exceeded $565,000,000 or $30,000,000 more than the previous peak in 1931. Federal gasoline taxes added $170,000,000 bringing the total to $735,136,000.

The 1934 collections increased the aggregate of gasoline taxation since it was introduced in 1919 to approximately $4,520,000,000 within 15 years.

It will take only six years at the present rate to collect the next $4,500,000,000, unless the motor owning public does something to check it and compel a reduction of the rate and a limitation to expenditures on serviceable highways.

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Personnel Changes Made by Standard of Louisiana

Several changes in the personnel of the Standard Oil Co. of Louisiana manufacturing department at Baton Rouge were announced recently by M. J. Rathbone, new general manager of that department. Mr. Rathbone succeeds H. H. Hewetson, who has been transferred to the Imperial Oil Co. in Canada. Mr. Heweston came to Baton Rouge in May, 1931, from the Colonial Beacon Oil Co. in Boston.

M. W. Boyer, former general superintendent of the refinery, was appointed assistant general manager of the manufacturing department, which office will include the handline of joint conferences under the company's industrial representation plan. H. J. Voorhies, former head of the technical division, was named to assist Mr. Rathbone. His duties will include handling of matters relating to the technical division and acting as a point of contact between the local management and the Standard Oil Development Co.

R. J. Stone succeeded Mr. Boyer as general superintendent of the refinery, assisted by L. V. Robbins and A. F. Fritchle in charge of process operations and maintenance and mechanical operations respectively.

The various engineering activities in the refinery have been grouped into one department. A new unit of the co-ordination system was also announced; the sales contact and shipping division.

Richfield Oil Sale Is Ordered by California Court

A foreclosure sale of assets of the Richfield Oil Co. of California which has been ordered by U. S. District Judge William P. James brings creditors of that company one step nearer to a termination of the lengthy receivership. Promoted by Judge James, William C. McDuffie, the receiver, and the Richfield reorganization committee, the sale will take place regardless of agreement of divisions of proceeds among the creditors, it was learned. Delay in the recovery of claims after the sale might be brought about by appeals against the compromise agreement on the part of bondholders.

When the date of the sale is set, bids will be in order. It is hoped by creditors that an offer will be made exceeding the original $24,000,000 bid made by Standard Oil Co. of California. However, the recent gasoline price wars will have a quieting effect on competitive bidding, since the resulting low prices decrease both the apparent value of the Richfield assets and the top price that the bidding companies can bear.

Richfield bondholders are now estimated to receive 43 to 44 cents on the dollar, Pan American bondholders 50 to 51 cents and unsecured creditors 19 to 20 cents. Higher purchase prices would affect these returns disproportionately, the unsecured creditors benefiting least. This division is entirely dependent on the absence of any appeals. The court order has provided merely for a sale with the division of proceeds thereafter governed by the compromise agreement.

Canadian Gasoline Imports

CHATHAM, Ontario, June 29.—Imports of natural casinghead, compression or absorption gasoline lighter than .6090 specific gravity into Canada in April totaled 826,274 gallons worth $35,435, all from the United States. March imports included 2,601,088 gallons worth $156,024 from the United States and 2,506,541 gallons worth $107,194 from Peru. Imports of gasoline lighter than .8235 specific gravity, all from the United States, amounted to 1,194,867 gallons worth $96,702 in April compared with 1,492,027 gallons worth $123,813 in March.

Exports of gasoline and naphtha in April were 2,541 gallons worth $429 compared with 7,222 gallons worth $1,284 in March.

Associated Contract

For the fifth year, the Associated Oil Co. of California has been awarded a contract to supply the United States navy with the bulk of its lubricating oil requirements for the Pacific fleet, it was announced today by P. E. Allan, domestic sales manager of the company.

The new contract covers approximately 1,000,000 gallons.

Deliveries on the contract, starting July 1, 1935, will be made at Honolulu, San Diego, San Francisco, Oakland, Vallejo, Portland, Tacoma, Seattle and other Pacific Coast points.

Natural Gasoline in California Shows Deficit During May

Natural gasoline production during May decreased 2,000 bbls. daily to 29,000 bbls. daily while refinery utilization increased 1,000 bbls. daily to 27,000 bbls. daily. Shipments remained at 2,000 bbls. daily. Natural gasoline production during the first five months of 1935 was 32,000 bbls. daily, the same as during 1934, but refinery utilization of 25,000 bbls. daily was 2,000 bbls. daily under the 1934 utilization for the same period. Stocks decreased 101,000 bbls. during the month to 2,810,000 bbls. but were still 845,000 bbls. greater than at the end of May, 1934.

NATURAL GASOLINE INCLUDING LIQUIFIED PETROLEUM GAS

Supply—	Daily av. bbls. May	Daily av. bbls. April
Total production	36,243	35,109
Stock transfer (deliveries) receipts-net	(300)	(79)
Net total	29,943	35,030
DEDUCT refinery requirements:		
Run to stills	1,398	1,482
Blended	25,243	21,853
Total	26,641	23,336
ADD refinery output:		
Straight-run	....	....
Natural gasoline—net	315	109
Net current supply	3,617	11,803
Demand—		
Domestic demand including bunkers	1,563	1,224
Shipments to Alaska and Hawaii	6	8
Rail and truck shipments to U. S. points outside Pacific Coast territory	3	3
Demand in domestic market area	1,572	1,235
Shipments:		
Pacific foreign including canal zone	587	1,787
Atlantic foreign	1,715	0
Total market demand	3,874	3,022
Losses (gains) unaccounted for—net	2,992	2,001
Total current demand	6,866	5,023
Surplus or (deficit)	(3,249)	6,780

NATURAL GASOLINE PLANT OPERATIONS MAY, 1935

Field—	Gas treated (thou. cu. ft.)	Natural gasoline produced (gallons)
San Joaquin Valley:		
Elk Hills	76,690	132,712
Kettleman Hills	8,182,081	9,122,669
Midway-Sunset	1,218,993	2,337,392
Mountain View	277,943	351,783
Miscellaneous	415,201	522,856
Coastal Region:		
Elwood	194,674	404,087
Rincon	83,333	[illegible]
Santa Maria	144,192	397,833
Ventura Avenue	2,931,789	3,506,427
Miscellaneous	246,997	266,854
Los Angeles Basin:		
Coyote	526,980	845,765
Dominguez	854,078	1,497,451
Huntington Beach	1,989,626	3,097,468
Inglewood	154,687	223,387
Long Beach	2,087,915	6,743,639
Playa del Rey	388,277	1,062,419
Richfield	414,835	716,732
Rosecrans	565,527	747,964
Santa Fe Springs	2,702,727	4,490,882
Seal Beach	443,718	834,686
Torrance	164,953	234,453
Miscellaneous	258,721	809,194
Totals (all fields)	24,263,742	38,159,126
Distribution (gallons)		
Stocks beginning of month		3,301,463
Production during month		38,159,126
Delivered to refineries		36,743,638
Delivered to jobbers, brokers or blenders		1,215,613
Blended at plants for production of motor fuel		6,426
Losses		82,170
Stocks end of month		3,412,761
Totals	41,460,588	41,460,588
Liquefied petroleum gas production	1,217,697 gals.—	28,993 bbls.
Motor fuel produced	5,329 gals.—	127 bbls.

New Price Schedule Posted

Continental Oil Company announced that it has issued instructions to all its agents in Oklahoma that effective at opening of business July 1, 1935, the following schedule of gasoline prices is to be posted at all Oklahoma points:

	Tank Wagon	Service Station
Demand Gasoline	.14	.16
Conoco Bronze	.16	.18
Conoco Ethyl	.18	.20

Contract Signed Covering Five Year Needs of Refined Oils

NEW YORK, July 1. — Announcement was made here that a contract had been closed between a group of independent jobbing interests in North Carolina and James B. Berry Sons Co., marketing organization, calling for the delivery of between 132,000,000 and 190,000,000 gallons of gasoline and kerosene over the next five years. It is said to be the largest contract ever entered into by independent jobbing concerns which were organized recently under the name of Carolina Terminal, Inc. The jobbers located in all parts of the state have approximately 15 per cent of the gasoline business in the state.

The jobbers completed their plan of pooling their gasoline purchases in order that they might have the advantage of cargo prices and enable them to compete more advantageously with major oil interests. A modern water terminal is now being completed.

At Wilmington, N. C., the first cargo will arrive from California about July 15. The Berry company is a veteran marketing organization with its principal offices in Oil City, Pa., and New York City. It is understood that prices under the contract are based on published quotations with guaranteed minimum margins under the retail prices. Deliveries to the jobbing interests will be made from the Wilmington terminal.

A.P.I. Committee Appointments

W. H. Meier, Atlantic Oil Producing Co., Dallas, Texas, has been reappointed chairman of the American Petroleum Institute's Division of Production Central Committee on District Committees, by George A. Hill, Jr., of Houston, Texas, Institute vice president for production and chairman of the division of production general committee.

Bruce Barkis, of Rio Grande Oil Co., Los Angeles, Calif., is vice chairman of the central committee for 1935, and Carl A. Young, secretary of the Division of Production, again is committee secretary.

The following have been appointed members of the committee:

H. H. Phillips, T. W. Phillips Oil & Gas Co., Butler, Pa.; J. C. Johnston, Continental Oil Co., Borger, Texas; C. E. Sutton, Pure Oil Co., Houston, Texas; John R. Suman and W. R. Trelford, Humble Oil & Refining Co., Houston; C. R. Weidner, Sinclair Prairie Pipe Line Co., Independence, Kans.; M. E. Brock, Gulf Production Co., Houston; R. E. Donovan, Standard Oil Co. of California, San Francisco, Calif.; G. F. Prussing, Union Oil Co. of California, Los Angeles, Calif.; F. E. Wood, Standard Oil Co. (Indiana), Chicago, Ill.; and G. P. Bunn, Phillips Petroleum Co., Bartlesville, Okla.

Famous "Esso" Suit

The Standard Oil Co. (New Jersey) and its subsidiary Esso, Inc., have presented a motion in the Federal district court at St. Louis to dismiss the famous "Esso" suit so far as they are concerned. They cite the technical grounds that they are not residents of the district in which suit was brought. Louis L. Stephens, chief counsel for Standard of Indiana, announced that even if the suit should be dismissed it will be continued against Francis Sheeran, St. Louis representative, whose being subject to the St. Louis court's jurisdiction is not in question.

Meter Fuel Oils

CHICAGO, July 1.—Chicago heating oil marketers have no general objection to metering light oils, according to a survey made of sentiment by the Chicago Burning Oil Distributors Association. This was made in connection with an ordinance now pending in committee of the Chicago city council, calling for metering of all oils. However, sentiment is that heavy oils cannot be satisfactorily metered. It is expected the proposed ordinance will be amended so that, if passed, it will exclude metering of gasoline and kerosene and will apply only to such heating oils as 1, 2, 3 and 4. It has been suggested the city council consider limits of practicability on a basis of viscosity, using 50 seconds at 100° F. as maximum flow, rather than designate by numbers.

CONSTRUCTION NEWS

Five-Spot Flooding Method to Be Used in Nowata Area

The Forest Oil Corp. which recently purchased the Warner & Caldwell properties in Nowata County, Oklahoma, for the purpose of flooding the Bartlesville sand after the manner so successful in the Bradford sand in the field of the same name in Pennsylvania, has already opened offices in Nowata, taken possession of the property and has a force of men familiar with the work of flooding engaged in the field.

Forest engineers cored the Nowata area over a period of a year before the company made its purchase in the Coody's Bluff district. The five-spot method will be used in the field, with the five-spot well as the oil well and the 1- to 4-spot wells being used as water intake wells. Experimental well spacing, pressures and water volumes will be worked out gradually.

A successful flooding operation has been already established in the field in addition to the Burt H. Collins and later the Carter Oil Co. operations. H. J. Walters, of Bradford, Pa., went into the Nowata Field early in 1934 and purchased some leases. He started a flood in the south half of the southeast quarter of Section 1-25-16 in July of last year. Production started in January of this year and has increased from practically nothing to 75 or 80 bbls. per day.

Bradford Field operators, some of whom have grown from men of modest means to millionaires, are known to be looking for new fields in which to apply their experience in flooding, and the Bartlesville sand of northeastern and northern Oklahoma, perhaps the most extensive oil sand body in the world, is expected to attract more of them than the Forest Oil Corp., Mr. Walters and the late Burt H. Collins, the last named having pioneered in flooding in the Nowata-Chelsea area.

Test in Scott County, Kansas, Uncovers Sulphur Water

Two important wildcat tests in western Kansas that have reached interesting depths are located in Scott and Ellis Counties.

Atlantic Oil Producing Co.'s No. 1 Mark-A, C SE SE Section 28-20-33w, in Scott County, Kansas, had Topeka lime at 3,560 feet, the base of the Mississippi lime at 5,377 feet, Viola lime at 5,387 feet and Siliceous lime at 5,567 feet. It drilled into sulphur water at 5,600-10 feet and was drilling at 5,630 feet. The company may drill to 5,650 feet, if necessary, to make a complete test.

Stanolind Oil & Gas Co.'s No. 1 Penny-Wann, NW SW SE Section 12-15-20w, southwestern Ellis County, found Oswego lime at 3,298 feet. Cores taken at 3,298-3,300 feet and 3,320-36 feet showed good saturation in the recovered core portions and a Halliburton drill stem test was to be made.

A. H. Kashiske's No. 1, SW SE NE Section 23-15-13w, Russell County, was shut down for orders after getting a hole full of water from Siliceous lime at 3,356 feet, total depth.

J. C. Schaffer, Inc.'s No. 1, NE NE SE Section 11-14-15w, Russell County, had Siliceous lime at 3,298-3,305 feet. It was acidized and the well made 200 bbls. in 10 hours, but cutting 10 to 20 per cent.

Kansas Dry Hole Pluggers

WICHITA, Kans., July 1.—The Kansas Corporation Commission has appointed the following dry hole pluggers for the coming fiscal year:

Hal Smith, dry hole supervisor, with offices at Wichita; C. H. Prove of Paola, for Douglas, Johnson, Franklin and Miami Counties; Chet Dickinson of Moran, for Allen and Bourbon Counties; P. F. Mote of Chanute, for Neosho and Crawford Counties; Henry Latham of Independence, for Labette, Cherokee and Montgomery Counties; John Sullivan of Neosho Falls, for Coffey and Woodson Counties; R. L. Brinegar of Fredonia, for Wilson County; A. W. Hartsook of Eureka, for Chase, Lyon and Greenwood Counties; Robert Orr of Howard, for Elk County; Lee C. Garrett of Sedan, for Chautauqua County; J. D. Robinson of Florence, for Marion County; Eldon R. Petty of Eldorado, for Butler County; William Lemaster, Winfield, for Cowley County, and W. G. Buffington of Gueda Springs, for Sumner County.

Will Build 5,000-Bbl. Gulf Coast Refinery and Pipe Line

G. L. Rowsey plans to erect a 5,000-bbl. refinery at Point Isabel, on the Gulf Coast in Texas, construction to start in the near future, according to an announcement made this week. The refinery will receive crude through an 85-mile pipe line which, it is reported, will be laid from the Sam Fordyce Field to the plant, construction to start immediately. The projects will cost $500,000.

Those interested in the pipe line are said to include T. Frank Murchison and E. M. Closuit of the Texas State Oil Co.

A shipping terminal to be included at the refinery will be built by the Wyatt Metal & Boiler Works under a turnkey contract. The contract for the pipe line is reported to have been let to the Republic Supply Co.

Contracts have been made with producers in the Sam Fordyce Field for crude for the plant.

New Michigan Gas Lines

MUSKEGON, Mich., July 1.—Plans for two new central Michigan natural gas line projects were announced by the Crystal Natural Gas Co., Consumers Power Co. and Mid-West Pipe Line Co. The plan of the Crystal company, organized by Earl J. Frost, of Crystal village, H. R. Fothergill of Detroit, and Paul R. Cash of Alma, was approved by the township board which will submit the proposal for a 25-year franchise to serve the village from new Crystal and Ferris Townships, Montcalm County wells, to the voters at a special election July 6. If approved by a majority vote, the franchise will require construction ready for service by October 1, 1935.

A proposed franchise for a similar period was submitted to the Alma city council by the Mid-West company and will be taken up with nearby communities including St. Louis, Ithaca and Brackenridge, now served with manufactured gas by the Consumers company.

Officials of the two concerns have opened negotiations for the pipe line company to deliver natural gas from the Gratiot-Montcalm counties' pool to the Consumers' distribution system.

The Mid-West company has been granted 90 days in which to develop sufficient reserves to assure a steady supply for all of these communities. If the new Central Michigan field does not show great enough reserves, the Consumers company will proceed with plans to connect the four communities with an extension now being constructed from the Broomfield gas field to the Millbrook-Hinton Townships pool in Mecosta County, virtually assuring new service either way, it was said by Harley H. Stephens, district manager.

Vancouver Refinery Planned

VANCOUVER, British Columbia, June 29.—The Standard Oil Co. of California is entering the Western Canadian Field on a large scale. An affiliated company, Standard Oil Co. of British Columbia, Ltd., has been incorporated. A refining plant will be built at Burnaby, close to Vancouver, where a 55-acre site with a 400-foot wharf has been secured. The plant will be completed by December 1. Another subsidiary, Standard Stations, Ltd., will handle the marketing operations, extending ultimately from British Columbia into Alberta and other prairie provinces. Initial plans involve the expenditure of approximately $1,000,000 on refinery and service stations.

Extension to Detroit

DETROIT, Mich., July 1.—Mayor Frank Couzens, of Detroit, Walter C. Beckjord, of New York, vice president of the Columbia Oil & Gas Corp., and other officials of the city, the Columbia company and its subsidiary, the Panhandle Eastern Pipe Line Co., started negotiations Saturday with a view to bringing natural gas to Detroit. Thomas R. Weymouth, Columbia vice president, also met city officials.

The city is seeking to persuade Columbia to extend its present pipe line from the Texas Panhandle to Dana, Ind., a distance of 300 miles, into Detroit, making possible the delivery of about 100,000,000 feet daily to Detroit consumers.

The Detroit City Gas Co. sells about 50,000,000 feet of its manufactured product daily but the demand would be greatly increased with lower-priced natural gas. The Panhandle Eastern is being represented in the negotiations by Thomas R. Weymouth and several other engineers. John W. Smith, president of the city council, Frank P. Fisher, a California gas engineer, and the city's gas consultant engineer, also are participating in conferences.

City officials are insisting they will oppose any plan to bring natural gas to the Michigan metropolis unless it is distributed by the city under a municipally-owned system.

Should Columbia and Panhandle Eastern agree to the extension, the city's next step would be to find ways and means of building a proposed belt pipe line through industrial areas.

It is estimated the extension from Dana, Ind., would cost about $9,000,000 and the city distribution system about $3,000,000.

Oklahoma Lines

Electric welding has been started by H. C. Price, Inc., Bartlesville, Okla., on the two 8-inch pipe lines being laid for the Stanolind Pipe Line Co. This work involves laying 28 miles in two jobs, one being 20 miles of 8-inch north from Fitts Pool and the second job covers 8 miles of 8-inch west of St. Louis Pool.

East Texas Refiners Expand

The Premier Refining Co. began operations this week in the new refinery at Greggtown, western Gregg County, East Texas. The plant has a 4,000-bbl. cracking unit with stabilizer and reforming unit, and is connected to 108 wells. It is one of the more modern plants in the field.

John Gilliland, owner of the Gilliland Refining Co. of Gladewater, Tex., has purchased the Skeen Gathering System in East Texas. That part known as the Central Pipe Line Co. was not included in the sale. Arrow Refining & Producing Co., with a plant in Overton, was recently added to the Gilliland interests.

New Canadian Refinery Unit

PETROLIA, Ontario, June 29.—F. H. Littlefield of Toronto, president of Canadian Oil Companies, Ltd., on Tuesday, June 18, pressed the button which set in operation the new $450,000 unit of the local refinery. The new plant includes cracking stills, a water cooler, vapor recovery unit, rerun unit and treaters. It doubles the company's refinery capacity, and was operating to capacity within a week. The old plant will be operated as a separate unit.

Quebec Gasoline Licenses

QUEBEC, Quebec, June 29.—The Quebec gasoline department has announced that licenses of gasoline vendors who fail to erect government signs indicating their cheap gasoline is low grade will be suspended or canceled.

Walter S. Markham Dies

Walter S. Markham, formerly of Tulsa, where for nearly 20 years he was associated successively with his brother, John H. Markham, Jr., the Prairie Oil & Gas Co. and Sinclair Prairie Oil Co. in their land departments, died suddenly in Washington, D. C., June 25 of heart failure.

Mr. Markham had been with the A.A.A., a governmental board, since January, 1934. He was born in Bradford, Pa., 39 years ago and joined his brother, J. H. Markham, Jr., in 1914 when the latter was one of the leading producers in the Cushing, Okla., Field. The funeral and burial were held in Bradford, Pa. Surviving are one brother, Robert E. Markham, Tulsa oil man, and six sisters.

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Basic Factors Involved in Choosing a Suitable Corrosion Resistant Alloy

By T. HOLLAND NELSON
Metallurgical Editor

In the previous article under the heading of "A Simplified Explanation of Corrosion Resistant Alloys," it was endeavored to show how the number of "so-called" stainless steels available today can be broken down and classified under four distinct headings. Let us repeat the headings:

1. Straight chromium steels.
2. Straight nickel steels.
3. Chromium steels in which nickel is present, but in which the chromium predominates.
4. Nicket steels in which chromium is present, but in which the nickel predominates.

Generally speaking, therefore, when attempting to deal with a corrosion resistant problem with any of the "so-called" stainless steels we ought to be able to find a simple method by which we could at least eliminate a great deal of the experimental work which would be involved if we followed the usual procedure of taking a manufacturer's sample by trade name, or analysis, and submitting it to a practical test. If we pursued this policy it is feasible to assume that before our experiments were completed we should have tested numerous samples and either consciously or unconsciously have done a tremendous amount of duplications.

After 10 or 15 years' service it is only natural that both manufacturers and users have accumulated certain definite knowledge and there are many corrosive conditions which remain standard at all times and which have been thoroughly investigated and can be handled with confidence. (See accompanying table.)

Opened Many Materials

Such research work has been responsible for the opening up of many of the original standard materials. For instance the straight chrome group of materials, the original patent for which covered a range of from 9 per cent to 16 per cent has now been widened and covers a range of materials one might say from 2 per cent chromium up to as high as 30 per cent.

Within this group are to be found materials possessing a great range of physical properties and characteristics, and from the corrosive point of view possessing resistance, more or less in proportion to the alloy content, to such solutions or conditions where chromium itself is found to be of benefit.

The chrome-nickel group, such as originated with the standard type of 18 per cent chromium and 8 per cent nickel has been modified in many cases and we find such analyses as:

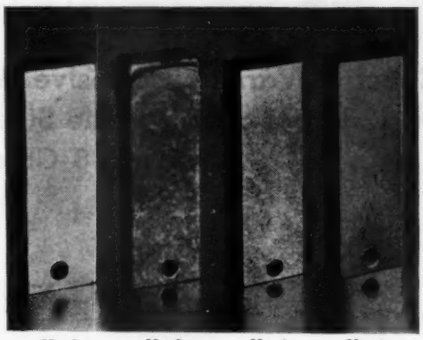
24% chrome-12% nickel
25% chrome-10% nickel
25% chrome-20% nickel
28% chrome-2% to 12% nickel

Again, these are the outcome of practical experience, proving the value of varied ranges in chemical compositions for special requirements.

Straight Nickel Steels

In the field of straight nickel steels, the possibilities are somewhat more limited due to the fact that steels containing approximately between 10 and 22 per cent nickel are rarely to be found in production. However, materials containing up to 6 per cent of nickel have been in use for many years and both 3 and 5 per cent nickel steels have been used extensively in the fields of minor corrosion problems.

Materials from 25 per cent to as high as 40 per cent nickel are, however, used for various purposes, and whilst perhaps the greatest tonnages are used in the electrical field, they, nevertheless, possess many valuable corrosion resistant features which the author feels have not been taken full advantage of up to the present time, although there are many steels within this nickel range to which chromium has been added for the purpose of obtaining desirable physical properties.



No. 2 No. 3 No. 4 No. 1

Fig. 1

In the nickel-chrome field we have alloys of
18% nickel-8% chrome
(Note this is the reverse of the standard 18 and 8)
20-22% nickel–10-12% chrome
35% nickel-11% chrome

The thought predominating, however, through all these materials is that within these modifications it is acknowledged that chromium on the one hand, or nickel on the other, is the corrosion resistant element and that the content used is modified in proportion to its power to impart to iron its own corrosion resistant properties to combat some particular corrosive solution.

Therefore, we have justification for the modification of the ratio of chrome to nickel or nickel to chrome, as the case may be, within these groups which will always be governed by what we might term mild, medium, or severe corrosive conditions.

We have previously stressed the fact that working solutions of the various chemical processes, or solutions as found in nature, are so complex that it is practically an impossibility to isolate from them any particular corrosive agent with any degree of certainty.

Use of Indicators

After several years of experience in this field, trying to combat the attack of a wide variety of corrosive solutions, the writer conceived the idea of taking an average piece of material from each of the four groups and submitting them to a practical working test, such for instance as their inclusion in some practical working form; in some instances one might take a short length of tube, or a fitting such as an ell, tee or union, or at least some unit part of an installation that was submitted to all the conditions which the material was ultimately expected to resist, and it would serve as a very practical indicator of results. In cases where it was not possible to obtain some definite part of a unit which would indicate the desired result, small indicators were used and suspended in such a manner that they would be truly representative of working conditions.

Let us imagine that we have a serious corrosion problem to deal with, in an instance where the solution is so complex that we have little or no knowledge of the reacting agents, but possessing a fair knowledge of the various corrosion resistant materials available, how can we, with the minimum of expense in the form of experimental work, and the maximum of efficiency approach this problem?

Let me suggest that we take four indicators of approximately the following analyses:

1. 17%-19% straight chromium iron.
2. 25% chrome-10% nickel–chrome-nickel steel.
3. 25%-30% nickel steel.
4. 35% nickel-15% chrome steel.

If such indicators were submitted either as unit parts of an installation, or even as separate indicators in suitable form under actual working conditions, we should find results quite surprising. The object of such a test is to show clearly whether chromium is the element by which we would obtain some resistance, or whether nickel is the element by which we might obtain results. Further whether with chromium we could use some nickel, or if with nickel we could use some chromium. This would simply mean the observation of four test pieces, but the results are far reaching in their purpose.

Operation of Indicators

As an instance of how such indicators would operate and the information that can be gathered from same, a glance at Figure No. 1 will clearly illustrate my point.

In this instance four indicators, such as referred to above, were used; the solution was a complex one, jealously guarded by a large chemical company and no information whatsoever could be given regarding its composition. After four indicators had been in service for approximately 30 days it was found:

1. The straight chromium material was slightly attacked.
2. The chrome-nickel material withstood the

Indicators Furnished Free

This is the second of a series of articles prepared by Mr. Nelson, Metallurgical Editor of The Oil and Gas Journal, to assist those in the petroleum industry to a clearer understanding of the basic principles of metallurgy and to aid in the proper selection of equipment.

Mr. Nelson will be glad to furnish free a limited number of Indicators such as are referred to in the accompanying article, to those having particularly baffling corrosion problems. He asks, however, that in making the request, there be furnished him all available information regarding what is known of the particular condition, liquids, or gases as the case may be, and the temperature involved. Requests should be addressed to T. Holland Nelson, The Oil and Gas Journal, Tulsa.

conditions without any attack or loss in weight whatsoever.

3. The nickel steel took upon itself a copper plating of 1/64 of an inch thick, with obvious loss of iron and contamination of the solution.

4. The nickel-chromium steel, whilst it lost too much weight to be considered seriously, yet did not withdraw copper from the solution.

From this information what can we deduce?

1. That chromium was the helpful element.

2. That nickel did not aid in corrosion resistance.

3. That the chrome sample No. 1 had insufficient alloy to produce complete corrosion resistance.

4. That higher chrome was satisfactory and that nickel could be used within limits.

5. That higher nickel than chrome was not satisfactory.

6. That with chrome added to the nickel beneficial results (although not satisfactory) were obtained.

Tests of this type should be interpreted properly and not in the simple statement that "2510 is O.K. for that job."

We know a great deal more than that—we know that upwards of 17 per cent of chrome is necessary and that nickel can be used so long as it is in less amount than the chrome; hence we are in a position to say the material for that job must be a chrome-nickel alloy containing upwards of 17 per cent chromium and all other experimental work is eliminated.

A typical instance of failure, due to incomplete information being furnished is illustrated in Figure No. 2.

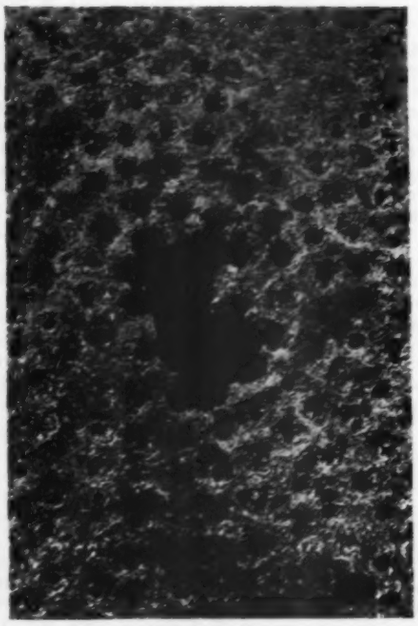


Fig. 2

In this instance the manufacturer was requested to supply a material which would resist the corrosive attack of SO_2. With this meager information available a high chromium material was supplied, such material being highly resistant to SO_2, but same failed very rapidly in service. A later investigation showed that the process allowed condensates to form and further oxidation to take place, with the result that at periods dilute sulphuric was formed.

This screen was later replaced with a higher nickel than chrome alloy and it is still working satisfactorily, after two years' service showing only slight signs of attack.

Corrosive Media Vary

From time to time I receive a request to explain situations such as the following:

"We have found such and such a material to function very satisfactorily in a certain installation, but have met with extremely disappointing results with material, supplied by the same manufacturer, at our installation at such a point."

The average user thinks in terms of engineering, and if he has a problem at a particular plant, and is successful in overcoming it with a particular type of material, the most natural thing for the engineer to do is to assume that he has succeeded in overcoming his problem, with the result that it is not unusual at all to issue orders to replace such a material, manufactured by "AA" with one manufactured by "X," in the confident belief that that one particular problem is solved. If these were engineering problems only, then this procedure would work out perfectly satisfactorily, but if a corrosion problem is part of it and the corrosive medias we are dealing with vary, as we know they do over different areas, then it is by no means a safe assumption to make and is in itself responsible for the disheartening results so often experienced between one plant and another when apparently everything else is the same.

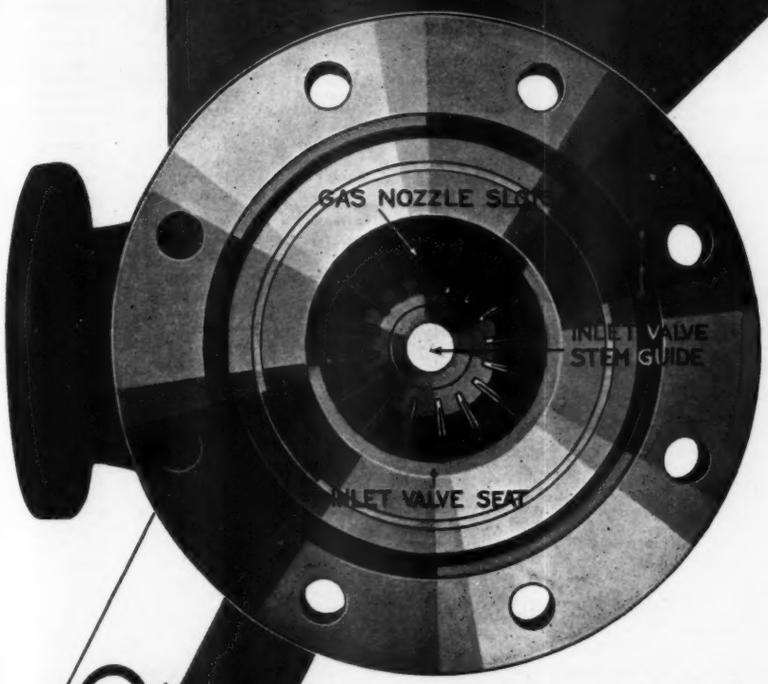
We have referred previously to such broad terms as "salt water," "sulphide conditions," "acid conditions" and "alkaline conditions," and we are reasonably familiar with various chemical methods of offsetting such conditions, but these headings are so broad and the solutions so complex that until we are in a position either to break down such solutions to a more definite knowledge as to the actual corrosive element, or elements, we can only fall back on "rule of thumb" methods; and if we have not that knowledge of the corrosive conditions that is essential, then at least let us have an intelligent knowledge of our materials. Having one constant that we understand it is not impossible to arrive at materials that will resist the attack of unknown complex solutions—and

Effect of Various Corrosive Agents on Straight Carbon Steel, 12-14 per cent Chrome Steel, 17-19 per cent Chrome Steel, 18 and 8 Chrome-Nickel Steels

Reagent—Acids:	Concentration, conditions, etc.	Carbon steel	12 to 14 per cent Chromium steel	18% Straight chromium iron	Chromium-nickel Steel—Cr. 18% Ni. 8%
Acetic	100 per cent	Attacked	Unaffected	Unaffected	Unaffected
	33 per cent	Attacked	Attacked	Slight stains	Unaffected
	15 per cent	Attacked	Attacked	Slight stains	Unaffected
	5 per cent	Attacked	Attacked	Slight stains	Unaffected
Acetic vapor	100 per cent	Attacked	Attacked	Slight stains	Attacked
	33 per cent	Attacked	Attacked	Slight stains	Slight attack
Benzoic	All concentrations up to B.P. strength	Attacked	Unaffected	Unaffected	Unaffected
Carbolic	All concentrations up to B.P. strength	Attacked	Attacked	Slight attack	Unaffected
Chloracetic	Acid crystals	Attacked	Attacked	Attacked	Attacked
	50 per cent	Attacked	Attacked	Attacked	Attacked
Chlorosulphonic	Concentrated	Attacked	Attacked	Attacked	Unaffected
	10 per cent	Attacked	Attacked	Attacked	Slight attack
	0.5 per cent	Attacked	Attacked	Slight attack	Unaffected
Citric	All concentrations	Attacked	Attacked	Slight attack	Unaffected
Chromic+10 per cent potassium ferricyanide	.....	Attacked	Very slight staining	Unaffected	Unaffected
Formic	Concentrated	Attacked	Attacked	Slight attack	Unaffected
	50 per cent	Attacked	Attacked	Slight attack	Unaffected
	25 per cent	Attacked	Attacked	Slight attack	Unaffected
	5 per cent	Attacked	Attacked	Slight attack	Unaffected
	50 pct. at boil'g point	Attacked	Attacked	Attacked	Attacked
Hydrocyanic	.....	Attacked	Attacked	Attacked	Unaffected
Hydrochloric	All concentrations, all temperatures	Attacked	Attacked	Attacked	Attacked
Hydrofluoric	.....	Attacked	Attacked	Attacked	Attacked
Mixed acids (HNO_3+nitrating mixtures H_2SO_4)	.....	Attacked	Attacked	Unaffected	Prac. unaffected
Nitric acid	Sp. gr. 1.42	Unaffected	Unaffected	Unaffected	Unaffected
	Sp. gr. 1.20	Attacked	Unaffected	Unaffected	Unaffected
	Under 11 per cent	Attacked	Attacked	Unaffected	Unaffected
Nitrous	Sp. gr. 1.41	Attacked	Slight	Unaffected	Unaffected
	5 per cent	Attacked	Staining	Unaffected	Unaffected
Oleic	.....	.....	Unaffected	Unaffected	Unaffected
Oxalic	1 per cent at 15°C.	Attacked	Attacked	Slight attack	Unaffected
	5 per cent and	Attacked	Attacked	Slight attack	Unaffected
	10 per cent 50° C.	Attacked	Attacked	Slight attack	Unaffected
Phosphoric	100 per cent	Attacked	Slight attack	Very sigt. attack	Unaffected
	75 per cent	Attacked	Slight attack	Very sigt. attack	Unaffected
	50 per cent	Attacked	Slight attack	Very sigt. attack	Unaffected
	25 per cent	Attacked	Slight attack	Very sigt. attack	Unaffected
	5 per cent	Attacked	Slight attack	Very sigt. attack	Unaffected
Picric	All concentrations up to B.P. strength	Attacked	Unaffected	Unaffected	Unaffected
Pyrogallic	All concentrations up to B.P. strength	Attacked	Unaffected	Unaffected	Unaffected
Stearic	.....	Attacked	Unaffected	Unaffected	Unaffected
Sulphuric	All concentrations	Attacked	Attacked	Attacked	Attacked
Sulphurous	B.P.	Attacked	Attacked	Slight attack	Unaffected
Tannic	5 per cent	Attacked	Unaffected	Unaffected	Unaffected
Ammonium hydroxide	All concentrations	Unaffected	Unaffected	No attack	Unaffected
Ammonium nitrate	10 per cent	Attacked	Unaffected	No attack	Unaffected
Ammonium sulphate	50 per cent	Attacked	Attacked	Slight attack	Unaffected
	10 per cent	Attacked	Attacked	Slight attack	Unaffected
	5 per cent	Attacked	Attacked	Slight attack	Unaffected
Ammonium sulph. + 5 per cent H_2SO_4	At 50° C.	Attacked	Attacked	Attacked	Attacked
Calcium chloride	Saturated	Attacked	Unaffected	No attack	Unaffected
	70 per cent	Attacked	Unaffected	No attack	Unaffected
	50 per cent	Attacked	Unaffected	No attack	Unaffected
	30 per cent	Attacked	Slight attack	No attack	Unaffected
	20 per cent	Attacked	Slight attack	No attack	Unaffected
	10 per cent	Attacked	Slight attack	No attack	Unaffected
Calcium hypochlorite	.....	Attacked	Unaffected	No attack	Unaffected
Camphor	.....	Unaffected	Unaffected	No attack	Unaffected
Carbon disulphide	.....	Attacked	.....	No attack	Unaffected
Chlorine gas	Wet and dry	Badly attacked	Badly attacked	Serious attack	Badly attacked
Mine water	.....	Attacked	Unaffected	No attack	Unaffected
Nickel nitrate	5 per cent	Attacked	Unaffected	No attack	Unaffected
	10 per cent	Attacked	Unaffected	No attack	Unaffected
Paraffin	.....	Unaffected	Unaffected	No attack	Unaffected

(Table Continued on Next Page)

RASIGA



Inlet Valve, Gas Nozzle Arrangement

AIR GAS

THE above is an attempt to illustrate a complete mixture of the letters in the two words AIR and GAS. With letters the problem is simple; with actual air and gas, the problem was more complex.

We have always been insistent on a homogeneous mixture, because our experience has been that a gas engine is just about as efficient, economical and generally satisfactory as its mixture is perfect. Back-firing, missing, overheating and difficulty in starting are very generally experienced just in the degree that the mixture is imperfect.

The TRANSIT 17x24" Gas Engine-Gas compressor has been put through many tests, and all the data and evidence proves a complete mixture of air and gas.

Gas and air are each piped separately from the regulating valve to each of the inlet valves, one of which is illustrated at the left. The vacuum produced on the intake stroke draws in the air over and around the gas nozzles projecting into the air stream, and the correct amount of gas as metered by the regulating valve, is drawn into the air stream through the long narrow slots of the gas nozzles in the form of thin ribbons of gas. This mixture occurs but one and three-quarter inches (1¾") ahead of the inlet valve seat.

The incoming mixture impinges first on the face of the inlet valve and then on the sides of the intake valve openings in the cylinder. The result is a homogeneous mixture.

There are many other features described in the

TRANSIT

17 x 24"

Gas Engine-Gas Compressor Catalogue

A copy will be sent you on request

NATIONAL TRANSIT PUMP AND MACHINE COMPANY

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then plot materials partially resistant to that attack which have an economical value in ratio to their price and ultimate life.

Conservative Understanding

The doctrine I would preach is one of conservative understanding in contradistinction to the broad claims that any one specific material is corrosive resistant. It can only be corrosive resistant, as we now know corrosion, to certain conditions and an entirely reverse type of material may be necessary where the corrosive conditions differ.

I should like to make it very clear that because I have grouped these materials in four classes, it is not my wish to infer for one moment that any four materials would meet the requirements of the corrosion resistant field. Many of these alloys are very similar in chemical composition. Others vary widely. Some include extensive use of other alloys such as silicon, molybdenum, tungsten, copper, aluminum, titanium, columbium, zirconium and selinium. The various ratios of nickel to chrome, or chrome to nickel, as the case may be, however, I hope have been clearly justified.

Silicon, molybdenum, copper and aluminum are used extensively in all the aforementioned materials and in most cases contribute to the corrosion resistant properties of the metals, whereas titanium, columbium, zirconium, and selenium are used more particularly either for the purpose of stabilizing metallurgical conditions or facilitating machinability, etc.

Most of these elements are reasonably well understood today and their additions have aided materially in the advance of the art.

Having selected the most suitable group for our purpose we are now confronted with the engineering side of the situation.

We must know something concerning the physical properties and the forms in which the desirable materials are available. A glance at Table No. 2 will give us the high spots of this situation.

It will be seen from this table that practically all the alloys referred to possess higher physical properties than mild steels or the nonferrous brasses and bronzes. Their application therefore, where such materials had been previously used, has presented no serious engineering problem.

With the constant tendency prevalent, however, to increase both temperatures and pressures even the best of these alloys are being taxed to the limit and we shall deal with some of these problems in later articles under the heading of Heat Resistant Alloys.

Reagent—	Concentration, conditions, etc.	Carbon steel	12 to 14 per cent chromium steel	18% Srtaight chromium iron	Chromium-nickel Steel—Cr. 18% Ni. 8%
Acids:					
Potassium bromide	10 per cent at 15° C	Attacked	Attacked	Slight attack	Unaffected
	5 per cent and	Attacked	Attacked	Slight attack	Unaffected
	1 per cent 50° C.	Attacked	Attacked	Slight attack	Unaffected
Potassium cyanide	Saturated	Attacked	Unaffected	No attack	Unaffected
	50 per cent saturated	Attacked	Unaffected	at nor.	Unaffected
	5 per cent saturated	Attacked	Unaffected	tp.	Unaffected
Potassium ferricyanide	Saturated	Attacked	Attacked	Attacked	Unaffected
	50 per cent saturated	Attacked	Attacked	Attacked	Unaffected
	5 per cent saturated	Attacked	Attacked	Attacked	Unaffected
Potassium nitrate	10 per cent	Attacked	Unaffected	No attack	Unaffected
Potassium oxalate	0.1 per cent	Attacked	Unaffected	No attack	Unaffected
	0 5 per cent	Attacked	Unaffected	No attack	Unaffected
	0.25 per cent	Attacked	Unaffected	No attack	Unaffected
Sea water	At 15° C.	Attacked	Slight attack	All depends on	Unaffected
	At 80° C.	Attacked	Attacked	method of	Unaffected
	In constant agitation	Attacked	Attacked	test gen.	Unaffected
	Intermittent spray	Attacked	Attacked	Slight attack	Very slgt. attack
Silver nitrate	5 per cent	Attacked	Unaffected	No attack	Unaffected
	1 per cent	Attacked	Unaffected	No attack	Unaffected
Sodium bromide	10 per cent	Attacked	Attacked	Slight attack	Unaffected
	5 per cent	Attacked	Attacked	Slight attack	Unaffected
Sodium chloride	10 per cent	Attacked	Slight attack	Slight attack	Unaffected
	5 per cent	Attacked	Slight attack	Slight attack	Unaffected
	3 per cent	Attacked	Slight attack	Slight attack	Unaffected
Sodium citrate	3.5 per cent	.....	Unaffected	No attack	Unaffected
Sodium hydroxide	66 per cent	Unaffected	Unaffected	No attack	Unaffected
	33 per cent	Unaffected	Unaffected	No attack	Unaffected
Copper carbonate	Sat'a. in 50 pct. Am.	Attacked	Unaffected	No attack	Unaffected
Copper chloride	10 per cent	Attacked	Attacked	Attacked	Attacked
	5 per cent	Attacked	Attacked	Attacked	Attacked
Copper sulph.—2 per cent H_2SO_4	.....	Attacked	Unaffected	No attack	Unaffected
Ethyl alcohol	100 per cent	Unaffected	Unaffected	No attack	Unaffected
Ethyl chloride	.....	Attacked	Unaffected	No attack	Unaffected
Ethyl ether	100 per cent	Unaffected	Unaffected	No attack	Unaffected
Ferric chloride	50 per cent	Attacked	Attacked	Attacked	Attacked
	10 per cent	Attacked	Attacked	Attacked	Attacked
	5 per cent	Attacked	Attacked	Attacked	Attacked
Ferric nitrate	5 per cent	Attacked	Unaffected	No attack	Unaffected
Formaldehyde	40 per cent	Attacked	Unaffected	No attack	Unaffected
Hydrogen peroxide	20 vols. at 15° C.	Attacked	Unaffected	No attack	Unaffected
	At 80°-100° C.	Attacked	Attacked	Very slight	Slight attack
Iodine	1 per cent	Attacked	Attacked	Slight attack	Unaffected
	Saturated soln.-iodine crystals	Attacked	Attacked	Slight attack	Unaffected
Lime and limestone	Emulsion	Attacked	Unaffected	No attack	Unaffected
Lubricating oils	.....	Unaffected	Unaffected	No attack	Unaffected
Magnesium carbonate	Paste	Slight attack	Unaffected	No attack	Unaffected
Magnesium sulphate	10 per cent	Attacked	Attacked	Attacked	Unaffected
Magnesium chloride	10 per cent	Attacked	Attacked	Attacked	Unaffected
Mercurous nitrate	5 per cent	Attacked	Unaffected	No attack	Unaffected
Mercuric chloride	5 per cent	Attacked	Attacked	Attacked	Unaffected
	2 per cent	Attacked	Attacked	Attacked	Unaffected
	0.5 per cent	Attacked	Attacked	Attacked	Unaffected
Mercuric cyanide	5 per cent	Attacked	Attacked	Attacked	Unaffected
Sodium hypochloride	5 per cent	Attacked	Unaffected	No attack	Unaffected
	0.2 per cent	Attacked	Unaffected	No attack	Unaffected
Sodium nitrate	5 per cent	Attacked	Unaffected	No attack	Unaffected
Sodium peroxide	At 80°-100° C.	Attacked	Attacked	Slight attack	Unaffected
Sodium salicylate	Saturated	Attacked	Unaffected	No attack	Unaffected
	50 per cent saturated	Attacked	Unaffected	No attack	Unaffected
	5 per cent saturated	Attacked	Unaffected	No attack	Unaffected
Sodium sulphate	Saturated	Attacked	Attacked	Attacked	Unaffected
	10 per cent	Attacked	Attacked	Slight attack	Unaffected
Sodium sulphide	10 per cent	Attacked	Unaffected	No attack	Unaffected

Typical analyses of the four types. Composition of each type in per cent.

Physical properties at normal temperatures. See footnote "A"

Physical properties at elevated temperatures. See footnote "B"

Available in the following forms

C	Si	Mn	S&P	Cr	Ni	Yield point	Ultimate stress	Elong. % in 2 in.	Red. of area per cent	Impact ft. lbs.	Hardness Brinell	Hardness Rockwell	1,200	1,400	1,600	1,800	2,000	Castings	Forgings	Billets	Bars	Cold dr. or ground	Sheets, plate, stp.	Seamless tubes
0.15	0.50	0.60	0.030	4.00 to 6.00	.....	25,000	60,000	35	75	100	400	25-C	22,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
						110,000	200,000	15	25	25	140	75-B	2,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0.07	0.08	0.12	0.025	11.70	Tr	60,000	80,000	30	70	90	170	85-B	24,000	12,000	10,000	.....	.....	.....	.....	.....	.....	.....	Seldom	used
						140,000	160,000	19	35	30	340	35-C	3,600	1,560	1,025	.....	.....	.....	.....	.....	.....	.....	.....	.....
0.35	0 19	0.15	0.025	12.00	Tr	100,000	110,000	25	55	35	220	20-C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	?	.....
						180,000	240,000	5	20	5	440	45-C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0.09	1.25	0.35	0.025	18.50	Nil	50,000	75,000	35	75	9	140	80-B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
						80,000	95,000	25	60	12	200	95-B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0.23	0.75	0 65	0.025	28.50	Tr	60,000	80,000	35	60	6	150	80-B	40,000	18,500	9,000	6,500	5,000	.....	.....	.....	.....	.....	.....	.....
						80,000	120,000	25	40	2	210	95-B	6,000	2,400	925	325	120	.....	.....	.....	.....	.....	Plates	.....

Castings from the above alloys have elongation and reduction in area from 5 to 20 per cent, much less than for the fabricated forms.

0.08*	0.25	0.40	0.03	Nil	5.00	35,000	75,000	35	70	90	160	85-B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
						65,000	100,000	25	55	50	210	95-B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0.15†	0.20	0 43	0.03	Tr	36.10	30,000	70,000	35	65	110	160	85-B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No
						45,000	90,000	25	55	60	170	85-B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

*Material resistant to mild forms of corrosion, was extensively used for turbine blades; has recently been superseded by the low carbon 12 per cent chromium type.
†Material is used where an austenitic material is required. This type of material with 10 to 12 per cent chromium is being used by turbine designers for higher temperatures than now prevailing.

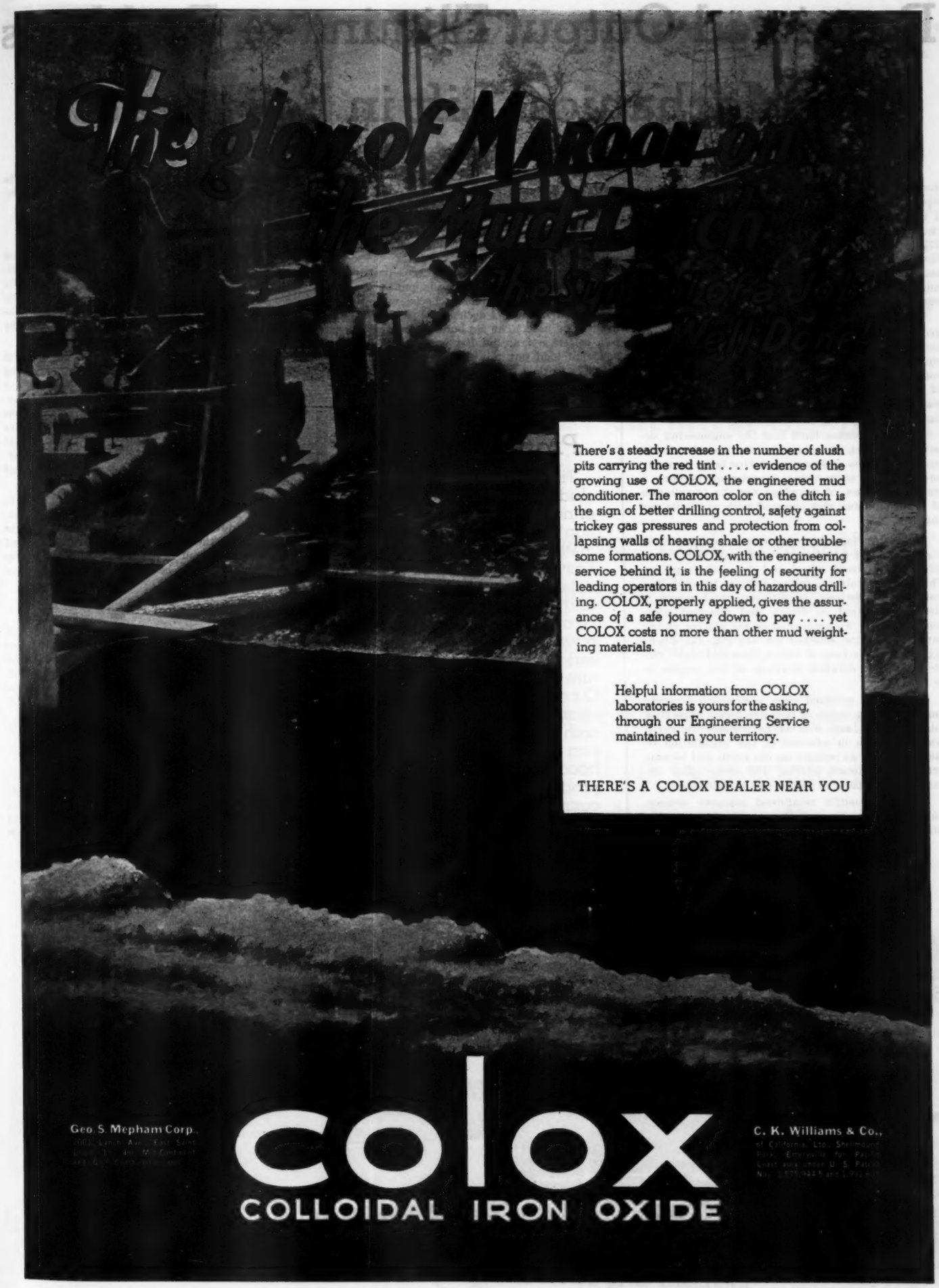
0.07	0 30	0.40	0.03	18.00	8.00	30,000	80,000	65	75	120	130	75-B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
						45,000	100,000	50	65	90	160	85-B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0.15	0.30	0.40	0.03	18.00	8.00	30,000	80,000	65	75	120	130	75-B	Brittle	30,000	15,000	9,000	.....	.....	.....	.....	.....	.....	.....	.....
						45,100	100,000	50	65	90	160	85-B	Range	3,900	1,525	450	.....	.....	.....	.....	.....	.....	.....	.....
0.25	0.35	0.45	0.03	25.00	10 00	40,000	80,000	55	70	90	150	80-B	55,000	34,800	18,250	10,850	5,500	.....	.....	.....	.....	.....	.....	.....
						60,000	110,000	35	50	50	200	95-B	8,250	4,520	1,870	540	125	.....	.....	.....	.....	.....	.....	.....
0.15	0.75	0.60	0.03	25 80	19.75	40,000	80,000	50	65	100	140	80-B	50,000	35,000	20,000	11,500	6,500	.....	.....	.....	.....	.....	.....	Hollow forged
						45,000	95,000	30	50	60	180	90-B	7,500	4,550	2,000	575	150	.....	.....	.....	.....	.....	.....	.....

High silicon, copper or molybdenum are often found in this group. Titanium, vanadium and columbian are often added to retard or control carbide precipitation. Selenium or zirconium sulphide may be added for free machining. Where some of these elements are present the materials may become slightly magnetic.

0.15	0.50 to 2.00	0.45	0 03	10.00	20.00	45,000	85,000	35	55	90	160	85-B	52,000	32,000	16,000	.....	.....	.....	.....	.....	.....	.....	.....	.....
						60,000	100,000	20	35	50	200	95-B	7,800	4,150	1,625	...	.....	.....	.....	.....	.....	.....	.....	.....
0.35	.....	.....	0.03	12.00 to 20.00	35.00	45,000	80,000	35	60	60	160	85-B	55,000	40,000	23,400	13,250	7,500	.....	.....	.....	.....	.....	.....	.....
						65,000	110,000	20	45	40	180	90-B	8,250	5,275	2,460	650	175	.....	Low chromium type only				.....	Plates
0.45	2 00	.....	0.03	20.00	60.00	25,000	60,000	35	60	100	140	80-B	55,000	35,250	22,500	15,250	9,250	.....	?	?	?	?	?	No
						50,000	80,000	20	45	50	160	85-B	8,250	4,575	2,800	750	225	.....	.....	.....	.....	.....	.....	.....

A—In columns headed yield point and ultimate stress the first figure refers to the annealed condition; the second figure is for cold worked or hardened material. Differences between these figures and other published data are accounted for by modifications of analysis or by variations in heat-treatment or work hardening during fabrication.

B—The first figure is the ultimate stress obtained after one hour at temperature; the second figure is considered by the author to be a conservative design stress for use at these temperatures. These working stresses are based on experience and have been used satisfactorily. But they should not be confused with creep strengths.


The Color of Maroon
the Mud
There's a steady increase in the number of slush pits carrying the red tint .... evidence of the growing use of COLOX, the engineered mud conditioner. The maroon color on the ditch is the sign of better drilling control, safety against trickey gas pressures and protection from collapsing walls of heaving shale or other troublesome formations. COLOX, with the engineering service behind it, is the feeling of security for leading operators in this day of hazardous drilling. COLOX, properly applied, gives the assurance of a safe journey down to pay .... yet COLOX costs no more than other mud weighting materials.
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COLLOIDAL IRON OXIDE
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Restricted Output Eliminates Problems in Mechanical Lift in East Texas

By L. G. E. BIGNELL

Out of a total of more than 17,700 wells in the East Texas oil field it is estimated about 3,750 are equipped for mechanical production, and on June 1 there were 1,263 wells classified as pumpers by the Railroad Commission of Texas, an increase of 122 over the number so classified in May. In addition to these wells, about 888 permits have been issued to date for air or gas lift, although this number of wells are not actually produced by lift methods.

Methods of equipping wells for pumping in this great area are almost as varied as the wells. Many small producers have rigged up second-hand equipment to get their allowable oil, and large companies have also transferred hundreds of sets of rig irons, and much other material that can be used for pumping their wells, into this field from fields where the equipment was not needed.

Some companies have had the engineering departments work out plans for the use of this old equipment when and as needed. One large company has had the engineering department prepare a standardized set of drawings for the installation of beam pumping rigs powered with available gas engines.

These drawings show the relative position of rig irons and band wheel to the well and fix belt centers between band wheel and drive shaft pulley. This permits uniform spliced belts to be used. The countershaft between engine and band wheel is also standardized in design and mounted upon concrete piers. To accommodate the placing of the particular engine selected for any rig, the drawings show variations of center lines and make reference to the detailed drawing of the engine to be used.

This rig is mounted upon a monolith concrete foundation cast inside of portable forms. The first thing done at any well is to prepare an earth grade as much in advance of the installation of the foundation as possible so the earth will become firm and minimum settling will occur after the pumping equipment is placed on the foundation.

With this outfit reinforced concrete samson and jack posts are cast along with the monolith foundation and firmly tied into it so that strains and stresses set up when the well is pumping will not cause movement of the rig parts.

Complete material lists have been prepared for each rig and when a well is to be put on the pump the engineering department checks with the material department and decides the particular equipment to be used. The rig builder, on company pay roll, selects a material list and orders the warehouse to load out the equipment needed. Every detail is worked out in advance and even miscellaneous items are scheduled on material lists. The exact quantity of cement, reinforcing bars, aggregates and foundation bolts are all specified.

Problems Simple

This is the third and concluding article in a series covering development, production and mechanical lift methods and practices in the East Texas Field. The first article was published June 20 and the second June 27. All features of these subjects have been covered and the series gives a complete picture of conditions in the field. Orderly development now characterizes the area and with restricted rate of production in effect and, in all likelihood to continue, pumping problems in East Texas are comparatively simple.

Pumping Units

While the use of old rig irons will be common in this field, many companies contemplate the installation of new pumping units at their wells. There are many types of pumping units available suitable for East Texas wells. Some are to be powered with gas or oil engines and others by electric motors.

Some of these pumping units are powered with sprockets by means of which small rotary outfits can be chain driven if it is found necessary at any time to clean out the well. Other units provide means for driving bull wheels if cable tools are to be used for cleanout. These combinations have been worked out in most instances to meet the customer's ideas. For the most part the pumping units are designed for only one purpose and the wells serviced by portable units.

The size and type of engine or motor used to drive the pumping unit will depend upon its contemplated duty. If the unit is to be used for pumping only, the engine or motor can be of small size, but if the well is also to be serviced by the power unit it must be of about 40 horsepower rating.

Central Powers

A great many central powers have been installed and they are justified if the lease has 10 wells or more and is located where a large volume of oil will be recovered before the wells go to water. Local topography will have much to do with the selection of powers, also their first cost and future cost of wells equipped to pump by this method.

Jacks to be used with powers should have adjustable stroke and the use of multipliers will increase the scope of each power's usefulness.

Many small leases equipped with band wheel pumping outfits are also provided with back side cranks and one or more additional wells pumped in this manner. Most of these units have a gas engine large enough to service the well at which

General view of Crim lease of Humble Oil & Refining Co., west of Kilgore, Texas, on largest tract under one management in this area

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it is installed and the other wells are serviced with portable outfits.

In areas where water is expected to put in a relatively early appearance the pumping duty will be heavy and it is best to install units suitable for this kind of work. Up to this time there are not a great many wells actually making appreciable quantities of water and it is believed under the present restricted rate of production the entrance of water into the wells will be deferred for some time.

Electric Power

There is about 375 feet of gas accompanying each barrel of oil in the East Texas Field and this gas does not escape from solution until pressures below 750 pounds per square inch are reached. At present allowable each well will produce about 7,500 feet of gas daily. The gas engine will consume about 15 to 20 cubic feet per brake horse power hour. Additional gas can be purchased.

While this will provide sufficient gas to pump the well under present conditions it is not always apparent how much additional gas will be required as the field gets older and many operators have therefore decided to use electric motors. There are power lines in all parts of the field and electric power rates are in effect to meet the users' particular needs. Transformers are furnished by the electric company as needed to give the required voltage for the units.

One company has installed generating plants in central locations to furnish power to a group of wells. The power lines are enclosed in conduits and buried under ground to eliminate troubles that might occur if they were mounted upon poles. Automatic controls are placed at the wells and it is possible to pump them even though high water may surround the wells.

Typical central power pumping installation in East Texas field

Other Mechanical Units

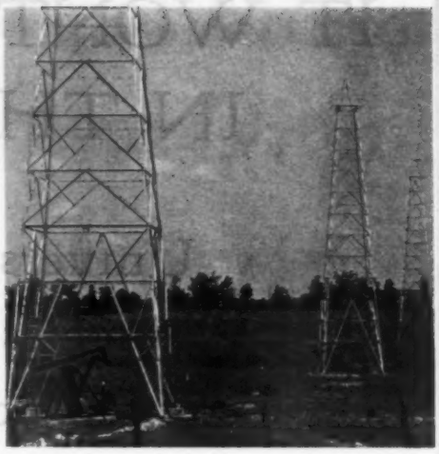
Many wells are equipped with automatic control devices that switch them on and off by clock mechanism. This type of control is of special value in areas that are sometimes flooded.

Many special types of pumping units have been installed in East Texas wells to secure production and all have given fair results. Some are of the bottom hole type and others of the syphon type. Bottom hole flow regulators have been used in areas of low formation pressures. Pneumatic cylinders suspended in the derrick and operated by compressed air have been installed at a few wells.

Flow devices and kick off collars have been used with gas lift wells.

East Texas with its thousands of wells will afford a very wide field for use of many different types of mechanism for securing the oil but as conditions become more stabilized it seems that beam pumping and pumping units will be most generally used. With restricted rate of production in effect the pumping problems in East Texas are comparatively simple and until water in appreciable quantities enters the wells the simplest type of equipment will be best suited to this field.

Salt water weighs about 30 per cent more than the oil and this will add to the pumping problem in about this proportion. As the volume increases economy in lifting costs will be very essential because the volume of oil allowed will probably be limited for a long time to come and under this condition wells cannot carry heavy burden in pumping costs.



Line of steel derricks over producers in East Texas. It is customary now to leave derricks over the wells to facilitate pulling rods and tubing and swabbing wells on production

Opportunities for Young Men Offered in Natural Gas Engineering

By FRANK C. SMITH
President Houston Natural Gas Co.*

What future is offered in the natural gas industry to the young man seeking an avenue of success in the business and engineering field? It has the rare distinction of offering an interesting and useful life work in a field not already crowded, which can be said truthfully of few, if any, professions open to young men today. The gas industry deserves and requires men carefully trained in the fundamentals of engineering and business, if they are to accomplish in fact the opportunities of the industry. Yet, I point out an amazing fact, that within the confines of the State of Texas, the greatest gas-producing and gas-consuming state in the Union, there is no young man today in any position in the industry trained especially by education for a life of usefulness in the natural gas industry. If there is an exception which has escaped my search, it is so rare as not to affect the strength of this statement. In the natural gas industry will be found men of rare attainment, lawyers, geologists, metallurgists; mechanical, civil, chemical and other kinds of engineers, but a bare handful, so far as I can learn, now have the degree of Natural Gas Engineering, marking them as especially educated for and dedicated to the service of this industry. This is an astounding fact and I do not pretend to be able to account for it, but one reason is that an education in this branch of engineering is offered in such few places.

No doubt you are wondering what the gas companies think about this situation. Speaking for the system with which I am associated, I say with emphasis that we would welcome the opportunity to draw from an educational institution offering gas engineering courses, some of its graduates for immediate employment in our system, and its undergraduates during the summer months, for useful and necessary work of construction, maintenance, safety, and the like, which would serve as admirable practical experience for the budding engineer. The need of the industry in Texas for men educated in this profession runs into the hundreds and would absorb eagerly large numbers of graduates annually..

I would not have you think that I decry the services and work of the gas men trained in the other branches of the engineering profession or in the school of experience alone. I work with such men every day and I am frequently stirred to admiration and to wonder "what could such fellows do with college training in natural gas engineering?"

*Before Engineering Students, Texas College of Arts and Industries, Kingsville, Tex.

Nature of Course

If such a course were offered by an accredited college for the benefit of the young men of this State, it should, in my opinion, include some or all of the following:

High entrance requirements, corresponding to those required of applicants for other engineering degrees;

Fundamental instruction in the related sciences, with special reference to geology, chemistry, metallurgy and physics;

Pipe line construction, maintenance and operation;

Plant construction and maintenance;

Pressure and measurement;

Plant operation and management;

Safety of property and personnel;

Contracts, leases, franchises, municipal regulation and other related legal aspects;

Corporate accounting;

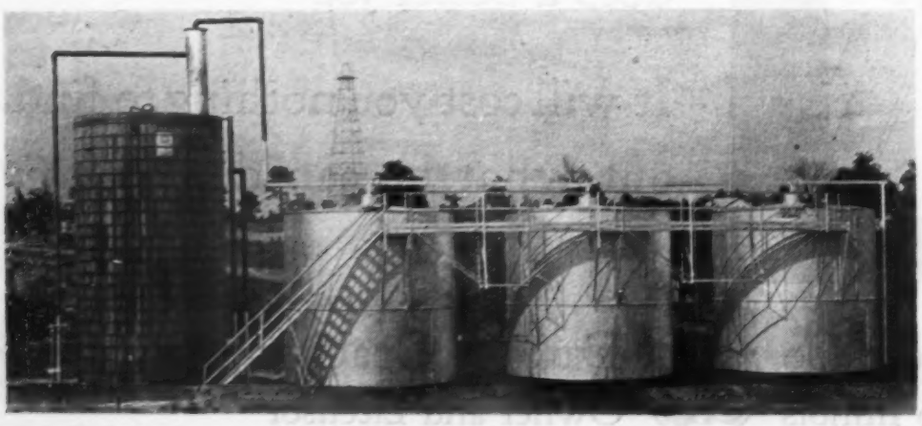
Company organization;

Domestic and industrial distribution and utilization;

Public relations;

Periodical short courses;

Technical subjects, including hydraulics, thermodynamics, and the like.



Battery of lease storage tanks in East Texas field with wooden gun barrel treating tank and three high 500-bbl. capacity lease tanks

Uniform System to Determine Extent of Corrosion Losses Is Necessary

By Prof. O. A. KNIGHT
Metallurgical Department, Pennsylvania State College

The oil industry and the gas industry have suffered terrific losses from corrosion. In some instances, these losses were realized and efforts are being made to minimize them, while in others, little attention is being given to the subject. Gill and Karl discuss corrosion losses in petroleum production in considerable detail. They classify the corrosion losses as follows:

A. Destruction of Equipment—This applies to losses caused by corrosion actually destroying material. Corrosion is sometimes erroneously blamed for losses, since wear and other factors play an important role and, when replacement is necessary, the failed part has a certain value as junk.

B. Cost of Repairs—This includes the outlay necessary to offset losses caused by corrosion. In some instances corrosion is entirely responsible for the failure of equipment, for example, by the corrosion puncture of tubing, although in most cases the cost of repairs has to be distributed between that caused by corrosion and that resulting from normal depreciation aside from corrosion. A fatigue failure in a string of sucker rods is cited. Corrosion fatigue may have caused the failure. Fifty per cent of the normal life of the rods had been obtained; therefore, 50 per cent of the repair costs is due to corrosion and 50 per cent is due to other causes. Some cases are more difficult to compute, but a careful study usually permits a fairly representative distribution.

C. Loss of Production—This includes the value of oil lost, during periods of shutdown, which might have been recovered had it not been for corrosion causing the shutdown. To determine this is not an easy matter. The common practice of charging a pro rata share of a well's normal daily production is, in most cases, entirely erroneous.

D. Indirect Increases in Production Cost—Under this heading the following costs are caused by corrosion: (1) Water troubles resulting from punctures of casing; (2) extra pulling jobs to replace cups cut by accumulation of corrosion products from rods or tubing; (3) decreased pump efficiency due to corrosion of working barrels and balls and seats, entailing an increased power consumption; (4) increased cost for treating the emulsion formed by excessive fluid slippage past corroded balls and seats.

E. Water Flooding of Sands Caused by Corrosion Puncture of Casing Letting Water In—Great difficulty is encountered in evaluating the losses from water flooding, as there are other causes of water flooding aside from corrosion.

Uniform System Needed

F. Accelerated Production Decline—The corrosion of certain items of equipment may result in a rapid decline in production rates and in extreme cases it may result in loss of a well, necessitating the drilling of additional wells to drain the field. Corrosion fatigue, corrosion of oil well screen pipe in the fields of the Gulf Coast have been discussed in considerable detail. There has not yet been developed a uniform system of determining the magnitude of corrosion losses, and the need of such a system is emphasized.

Kendall, in Vol. 23, No. 7, pp. 735-742, Industrial and Engineering Chemistry, discussing production corrosion as well as refinery corrosion, points out that, in the former, all classes of corrosion problems are encountered: Atmospheric, soil, water, hydrogen sulphide, etc. With regard to refinery corrosion problems, the desirability of dividing them into two classes is pointed out, namely, (1) low temperature problems, (2) high temperature problems. Hydrochloric acid resulting from decomposition of calcium and magnesium chlorides is largely responsible for damage in the low temperature range whereas in the high temperature range the damage is largely the result of oxidation of the metal on the fire side and action of sulphur compounds in the crude oil. Gill and Karl's discussion is found in the November 12, 1931, issue of The Oil and Gas Journal.

Theories of Corrosion

A review of the theories of corrosion, necessary for combatting problems intelligently, will now be undertaken.

Acid Theory—It is believed that a certain percentage of an acid is always necessary to start corrosion, and that water always contains traces of acids, such as carbon dioxide in solution. According to this theory, water, oxygen and some acid are essential factors. Iron is supposed to corrode according to the following reactions or similar ones:

(1) $H_2O+CO_2=H_2CO_3$
(2) $H_2CO_3+Fe=FeCO_3+H_2$
(3) $4FeCO_3+10H_2O+O_2=4Fe(OH)_3+4H_2CO_3$

and the hydrogen formed in the reaction (2) is removed by oxygen thus:
(4) $H_2+\frac{1}{2}O_2=H_2O$

The reactions follow a cycle and the H_2CO_3 (or other acid) is freed by reaction (3) and can react with more iron. While this theory will explain a number of corrosion attacks, it has been clearly shown by several investigators that corrosion will take place in the absence of acid, or particularly H_2CO_3 (CO_2 in water).

The Film Theory—Since in most corrosion cases a film is produced on the metal surface, composed of corrosion products, it is evident that a study of the nature of the films formed under different conditions is essential to a correct understanding of corrosion problems. The film effect alone does not offer a satisfactory explanation of all cases of corrosion, although it is an important factor.

The Peroxide Theory—According to this theory corrosion is due to the decomposition of water by the metal and in the case of iron the chemical reactions would be:

(1) $Fe+2H_2O=Fe(OH)_2+2H$
(2) $2H+O_2=H_2O_2$
(3) $2Fe(OH)_2+H_2O_2=2Fe(OH)_3$
(4) $Fe+H_2O_2=Fe(OH)_2$

Speller states: "It is true that hydrogen peroxide has been detected during the corrosion of copper, mercury, lead, silver, tin, zinc and bismuth, but never with iron, and pure neutral hydrogen peroxide in dilute solutions has no perceptible action on iron." It would seem from the evidence at hand that the part played by hydrogen peroxide is not significant enough for it to be set down as a basis for a corrosion theory.

The Theory of Direct Oxygen Attack — This theory was proposed by Bengough and Stuart, J. Inst. Metals, 28, pp. 31-114, 1922, who represent the chemical reaction thus: $M + H_2O + \frac{1}{2}O_2 = M(OH)_2$ where M represents a bivalent metal. While this equation makes use of the two essentials for corrosion, namely water and oxygen, it does not explain all of the observed phenomena in connection with corrosion.

Colloidal Theory

The Colloidal Theory — Friend proposed this theory in 1921. The main features are:

1. Iron in coming into contact with liquid water in the presence of air or oxygen slowly oxidizes to ferrous hydroxide. This, however, is produced in the colloidal condition—a state in which it is usual for many substances to be particularly reactive chemically.

2. This ferrous hydroxide hydrosol now undergoes oxidation to a higher hydroxide hydrosol, ferric hydroxide sol being produced in the most favorable circumstances.

3. This higher hydrosol is now alternately reduced in contact with the iron and oxidized again by atmospheric oxygen, thus catalytically accelerating the oxidation of the metal.

4. When the sol (iron hydrate) floculates or precipitates out, it yields rust. Evans does not believe there is justification in adopting a view that corrosion in its early stages is a colloidal phenomenon any more than ordinary precipitation is a colloidal phenomenon. Friend later states the colloidal theory was not intended to supplant the electroylitic but that it is an auxiliary theory.

Biological Theories — Due to the fact certain biological organisms have been found thriving in waters containing iron salts and corrosion products (and that the organisms decompose iron salts with precipitation of iron hydroxides) a biological explanation of corrosion has been set forth. Certain instances have been found where organisms played a very important part in corrosion but, on the other hand, corrosion processes are known to go on in the absence of living organic matter, hence it cannot be accepted as a general theory.

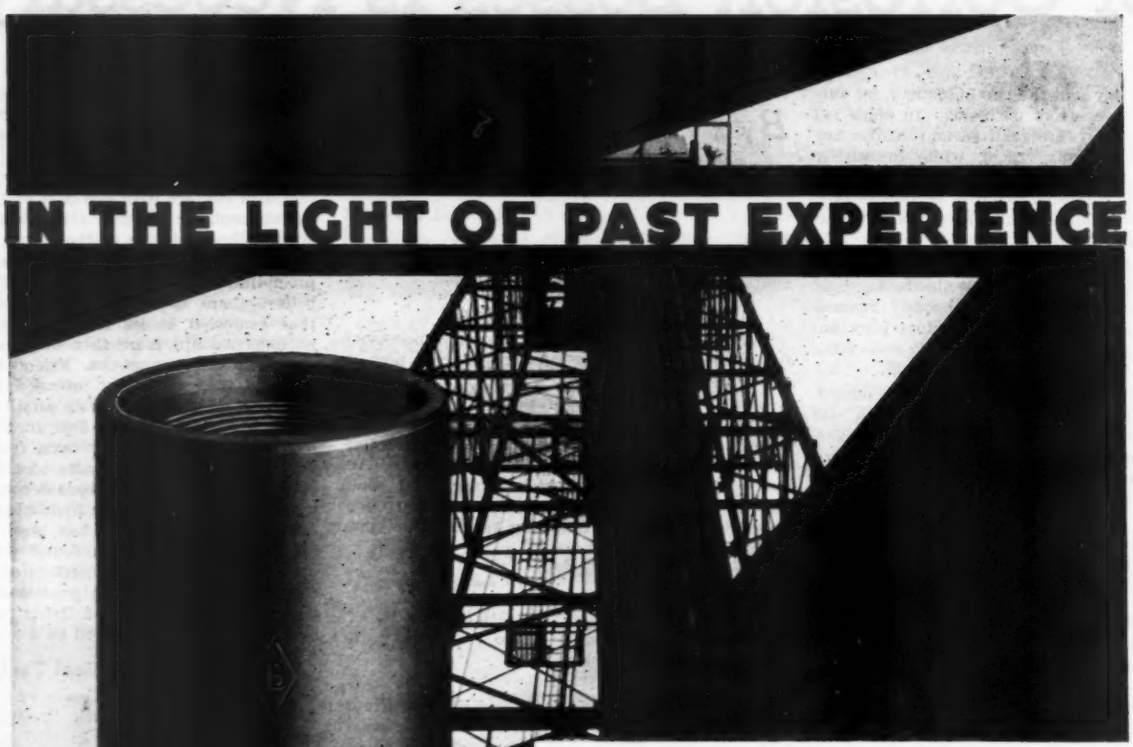
Electrochemical Theory

The Electrochemical Theory of Corrosion—This theory originally set forth by Whitney in 1903 and added to by Walker in 1907 and 1908, seems to be adequate to explain all known cases of corrosion. It applies not only to ferrous materials but to nonferrous as well. Whitney's own words seem best fitted for conveying his meaning: "Hydrogen acts as a metal and is electrolytically classified in the group with copper when compared with iron or zinc. That is, if a cell were made up on the Daniell model, iron being used instead of zinc and hydrogen electrodes were connected, iron would then dissolve with a velocity depending upon the total resistance of the circuit. So, also, for the same reason, iron when placed in a solution containing hydrogen ions will dissolve as the hydrogen precipitates, exactly as when placed in the copper salt solution. That iron does oxidize or dissolve in all solutions containing appreciable quantities of hydrogen ions is well known. This electrochemical relationship between iron and hydrogen is the chief cause of rusting."

The beginning of corrosion may be represented thus: (1) Fe (metal) + $2H^+$ (ionic) = Fe^{++} (ionic) + 2H (atomic) although, if something does not happen to overcome or remove the hydrogen which is deposited on the metal and acts as an insulator, the reaction soon slows down. Hence, if corrosion is to continue, this hydrogen must be disposed of and it was Walker who demonstrated the reactions for removal of this hydrogen film, thus:

(2) 2H (atomic) + $\frac{1}{2}$ O_2 (dissolved) = H_2O (liquid water) or
(3) 2 H (atomic) = H_2 (molecular)

It has been observed that the amount of gaseous hydrogen evolved according to reaction (3) during the corrosion of iron in neutral or alkaline water is small in comparison to the amount removed by oxidation, as indicated by reaction (2). Thus, the actual rate of corrosion is largely governed by reaction (2), e.g., by the rate of removal of the hydrogen film by oxygen. And it has been shown by several investigators that in natural waters, the corrosion rate is proportional to the oxygen content, provided, of course, that other things are equal. Thus, in neutral or alkaline water reaction (2) controls the corrosion rate while in strong acids reaction (3) is largely the controlling one and in a certain rather narrow range of hydrogen ion concentration (pH) the reactions are of about equal importance.



IN THE LIGHT OF PAST EXPERIENCE

Down through the years, the consistent satisfactory performance of NATIONAL Seamless Drill Pipe has fixed a deep-rooted confidence in the minds of operating men. Time and time again when the going has been rough and new depths were being made, NATIONAL has justified the confidence of those responsible for its choice. Increasing depths of string have demonstrated the soundness of its joints and its extraordinary capability of performance under adverse conditions; multiplied shocks and unrelenting strains made the stamina of the pipe even more evident; higher and higher drilling speeds proved it equal to all the demands of the most advanced rotary practice.

NATIONAL A.P.I. Seamless Drill Pipe is made by the largest manufacturer of tubular products in the world; an organization with unrivaled facilities, long experienced in the problems and requirements of oil-country tubular goods. If you want to be sure of successful performance, rely on NATIONAL—

America's Preferred Drill Pipe

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A.P.I.
SEAMLESS
NATIONAL DRILL PIPE

OPERATING IDEAS

Elimination of air from gravity pipe lines where oil is being taken direct from a station without tanks is achieved by the Stanolind Pipe Line Co. at its station in the Fitts Pool in Oklahoma through devices called "air eliminators." Air and any vapors which may have collected, are exhausted from the line through relief valves installed on risers located a short distance from the station. The air and vapors are exhausted into cans placed at the side of the risers.

Elimination of air which collects in gravity lines, where there is no tankage at the station, as in this case, prevents shut downs of engines and consequent loss of time and obviates the necessity of bleeding the air which might accumulate at the pumps. In other words, pumps might become "air bound" and, in addition, the device mentioned above prevents the necessity of blowing off vapors around engines, thereby greatly reducing, or practically eliminating any fire or explosion hazard.

Air eliminators on gravity pipe line

Simple Safety Feature

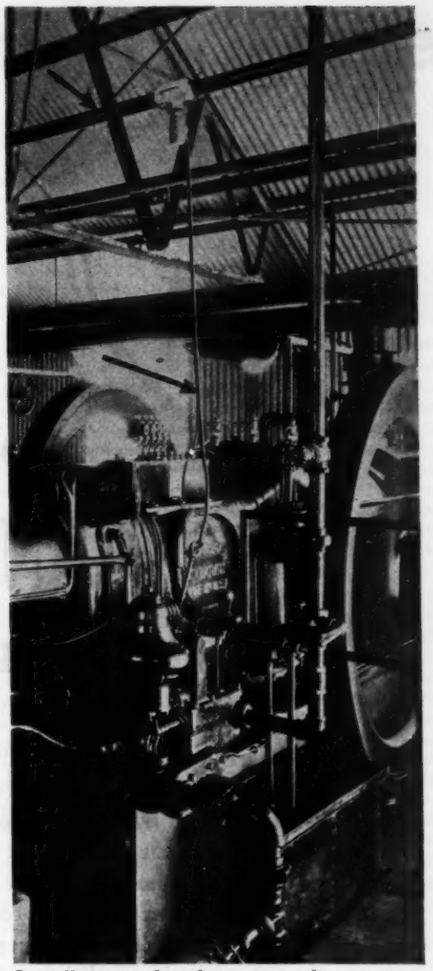
In engine rooms of compressor plants, should an explosion occur it becomes necessary to stop all the engines immediately. The old method of shutting down was by closing the gas valve which was feeding fuel to the engine. Sufficient gas would remain in the lines, however, to run the engines for a short period after the valves were closed thus preventing immediate stopping.

In one of the large East Texas gasoline plants, the superintendent has devised a safety feature which betters the old method in two points. A mercoid switch is attached to each intake scrubber, activated by a float inside the scrubber. To one side of the switch is attached a hot wire from the generator. The other side of the switch is connected to a multiple contacter located in the compressor shed. This consists of a number of electro-magnets operating switches and grounding wires to each compressor.

When the oil level in the intake scrubber reaches a dangerous level, the mercoid switch is closed and the electro-magnets in the multiple contacter close switches which ground out the magneto on every gas engine in the shed. The engines are shut down immediately precluding any explosion due to oil in the compression chamber. Furthermore, the ignition is cut off preventing any fire hazard should an explosion occur. A master switch, located at a safe distance from the compressor shed, also operates the multiple contacter.

Back Pressure Method

To provide a means of back pressuring flowing wells and thereby maintaining an hourly rate of production according to the well's daily allowable the above device has been used on wells in Kansas. The well can flow wide open through the large valve placed in the horizontal line at the well head. If it is desired to secure any proportion of full flow capacity the large valve is closed and one or more of the small valves opened wide.



Installation of safety grounding wires. Top arrow shows cable running length of compressor shed with individual wire (lower arrow) leading to the magneto of the engine

These smaller valves are mounted in small pipes, ⅜, ½, ¾ and 1-inch size. With any one or more of these valves full open the well will make a predetermined rate of flow and knowing which valve or combination of valves to use the production superintendent can adjust his well to make its allowable in any desired time period. One advantage of this device is the possibility of opening the valves to the full size of the pipe upon which it is mounted and in this way decreasing the effect of cutting of valve parts which might occur.

Device for back pressuring flowing wells

2 MORE FIELDS IN WHICH

TONCAN IRON PIPE

HAS PROVED ITS SUPREMACY...

There's an old saying, "One swallow does not make a summer." And by the same token, one fine record of service does not prove the superiority of a product. But when a product consistently shows longer life under certain conditions of service, that product must be eminently suitable for that kind of service. So it is with Toncan Iron Pipe in those uses where it comes in contact with salt or sulphur in solutions.

In these classes of service Toncan Iron Pipe has set many records—in brine lines in salt manufacturing plants—in seaside resort hotels piping ocean water to guest rooms—in oil wells—in acid sludge lines in oil refineries—in coal mine drainage lines—in seawater lines on shipboard. And the reason for its longer life is found in its alloy composition—refined open hearth iron, copper and molybdenum—an alloy that shows the highest rust-resistance of any of the ferrous metals in its price class—and in its uniform rust-resistance throughout its entire thickness.

Toncan Iron Pipe offers still other advantages when made by Republic's electric resistance welding process. It is perfectly round, of uniform wall thickness and diameter, and absolutely free from rust-promoting scale inside and outside. It can be made in sizes up to 16-inch O.D. and lengths up to 50 feet without mid-welds.

Let us send you a copy of "Pipe for Permanence." The service records it contains will prove to you the economy of using a pipe that experience has shown to last longer in lines where salt or sulphur corrosion is encountered.

Republic Steel
CORPORATION

GENERAL OFFICES · · · YOUNGSTOWN, OHIO

TONCAN COPPER MOLYBDENUM IRON PIPE

Refining Industry Resorting to Three Methods for Making Lubricants

By L. A. CALKINS
Valvoline Oil Co.*

Three different processes or methods are in vogue for the production of motor oils. The first and most widely utilized may be designated as the analytical method and represents normal refining practice wherein successive fractions of the crude with undesirable properties are discarded to conserve as lubricating oil those fractions having the most suitable properties. In common practice this method consists of fractional distillation, wax filtration, cold settling or centrifuging, acid treatment, clay percolation, solvent extraction, and similar methods more or less familiar to all of us.

The second is the synthetic method wherein raw materials are reformed or built into products having the desired properties. Hydrogenation is a good example of this type of manufacture. Its aim is not to discard undesirable materials but to reform them and from them to make products having the desired properties. The first method is wasteful, the second is the more correct approach and the operation is not hampered by the nature of the raw materials available. Economically, however, the latter method is not at present feasible for the industry as a whole.

The third process available for producing lubricating oil is more akin to manufacturing wherein different materials are added to each other to produce a finished product.

All three of these processes are sometimes used to produce one line, and in many cases companies whose normal procedure is the analytical method, resort to additives to improve their product. In this brief sketch we are considering additives both from the viewpoint of a producer of lubricants and also as materials supplied to the consuming public to be added to products marketed as finished lubricants.

The idea of additives for motor oils is not a particularly new one, nor can anything unfavorable be said of the practice if it is utilized intelligently. Additives may normally be considered from the point of view of the purpose they are to serve under these seven heads:

1. Filler.
2. Diluents.
3. Other pourpoint depressants.
4. Oiliness or lubricity carriers.
5. Strictly extreme pressure materials.
6. Antioxidants.
7. Viscosity index improvers.

In addition to these seven, which classes are not tightly drawn in that certain additives might accurately be catalouged in more than one, we must consider the present tendency to add materials to lubricants designed to give them solvency power; that is, additives which would prevent the adhesion of foreign material to the surface to be lubricated, the idea being to keep such matter circulating where it can readily be removed from the unit by draining the crankcase. To date no apparent progress has been made along this line as a commercial venture, but the idea is receiving some attention, particularly in certain scholastic circles.

Value of Additives

From a service angle a lubricant must have the following properties: First it must minimize wear and conserve power; secondly, its body must be such that the unit may be easily started; thirdly, it should show low consumption and long service life; and fourthly, must possess economic value.

Refining and service experiences have shown technologists that when certain raw materials are processed by definite methods to certain specifications such as gravity, flash, fire, viscosity, color, pourpoint, Conradson carbon, demulsibility, acidity, resistance to sludging, and possibly many other tests that excellent service characteristics result. Long acceptance of this situation has bred in the minds of the technologists a belief that satisfactory lubrication is necessarily a function of excellence in these tests, and any change of manufacture which results in the improvement of these tests is immediately expected to result in similar improvement of service characteristics of the product.

Time does not permit a consideration of the exact nature of all these tests, and just how they should or do correlate with service value, but this material is quite familiar to the audience. Any changes in plant processes or in the adoption of additives by a producer of lubricants should consider the changes in his product primarily in the light of their effect on the service value of the product and only secondarily in their effect on the normally accepted specifications of the lubricant. True it is that motives having their origin in sales or promotion interests may justify refinery expense where product improvement may be questioned but the technologists must recognize such factors and maintain judgment based on service facts as a final guide in reporting to the company officers.

Let us now briefly consider how each of the different types of additives affect the service value of motor oils. The first type is fillers, which may comprise materials added to give viscosity or thickening effect, the purpose of which is normally to reduce noise. A good example of this is the aluminum soaps formerly added to motor oils in the production of chatter proof lubricants. These had their greatest vogue in the days of the Model T Ford when some of the planetary transmission were anything but quiet. The day of such material is definitely past. Other thickening agents such as talc mica are normally considered as mild abrasives, and today are hardly considered as motor additives.

A second type of additive which may be considered as a filler but in a different sense is graphite, or materials containing graphite or iron, lead, zinc, and various other metals or compounds of metals added as soaps or in the finely divided colloidal or nearly colloidal metallic state whose purpose is to fill any inequalities in bearing surfaces, and by this method to eliminate friction. Much has been written about the action of graphited oils and their ability to form a graphoid surface, which should according to the manufacturer improve lubrication. Conflicting opinions from disinterested parties, however, leave the question of the value of such additives somewhat problematical.

The second general class of additives may be described as diluents. These may be kerosene, or light oil blends which act as viscosity breakers and/or pourpoint depressers. These had their greatest vogue when automotive engineering practice began to design engines to operate on lighter oils, while public prejudice prevented the wide acceptance of such lighter materials. This situation, I believe, is now a thing of the past so that motor oil additives which function only as diluents are not a factor in the picture today. Even before this era when dilution was definitely a problem in automotive lubrication a satisfactory lubricant for normal operation would have to be much too heavy in body for satisfactory operation when first poured into the crankcase. This would result in relatively unsatifactory service immediately following each crankcase drain period. To combat this difficulty, oils were supplied from some sources to which the dilution had already been added. Today by improved design, better fuel characteristics, crankcase breathers, and other scavenging systems, dilution is no longer a serious problem.

Pourpoint Depressants

The third type of additives are other pourpoint depressants such as paraflow or certain chlorenated aromatics which are in no sense diluents, but inhibit wax crystallization that better pumpability may be attained in the product. These materials, especially paraflow, have gained wide acceptance particularly in the Pennsylvania Field, because without apparently harming the product in any way, they make possible low pourpoint and satisfactory pumpability at low temperatures without the degradation of product incident to severe dewaxing to give comparable pourpoint.

A fourth type of additive may be described as oiliness or lubricity carriers. These may be natural fixed oils, oxidized petroleum products, fatty acids, or products of similar nature. In this connection it might be interesting to note opinions expressed at the Refinery Division meeting of the American Petroleum Institute in Tulsa. The following quotation is taken from The Oil and Gas Journal, May 23, 1935: "Here we see a definite disagreement of minds or at least of expressed opinions brought about partially at least by a failure to distinguish between oiliness or lubricity, and extreme pressure characteristics. Of course more than a misunderstanding here exists. Available material has definitely shown that over-refining tends to degrade service value of a lubricant; for example, a medicinal white oil does not make a satisfactory automotive lubricant. Many oiliness additives unfortunately do not possess satisfactory stability. It is also true that materials of this nature frequently dissociate in service to develop organic acidity which is particularly injurious to some of the newer bearing metals. Additional research may lead to improvement of these bearing metals, and the development of more satisfactory additives so that the lubricity of our products can be safely increased by their use. To date the best practice seems to be in conserving the natural oiliness of the product rather than depending upon additives to supply this need."

Extreme Pressure Additives

The fifth type of additives are extreme pressure materials. These may be products such as lead soap, sulphurized or chlorenated materials, or both, or certain substances such as cresyl or triphenyl phosphate, which confer on the lubricant an ability to withstand high pressures without scoring and rapid destruction of friction surfaces. In the last few months such materials have been added to motor oils by some companies whose salesmen, equipped with simple pressure testing machines, are marketing their products on the basis of high load carrying ability. This situation was commented upon by H. C. Mougey, head, chemical section and assistant technical director, Science of the General Motors, at the recent meeting of the Standard and Tests Division of N.P.A. at the General Motors Research Laboratories. I quote from The Oil and Gas Journal, May 30, 1935, page 15, wherein is reported Mr. Mougey's reaction to such materials: "Some attention has also been given to a sixth type of additives, antioxidants. The function of these materials is to inhibit the oxidation of the oil in the crankcase. Such materials are receiving wide acceptance in the treatment of motor fuel, but to the best of the author's knowledge have not today made much headway in the field of lubricants."

A seventh type of additive is designed to confer additional visco thermo stability to the product. These additives are typified by uniflow, exanol, and other materials of similar nature. Early service experience with such materials indicated lack of stability.

*Delivered before Department of Standards and Tests of N.P.A.

Gas Lift Entirely Practicable For Any Type of Well in East Texas Field

By L. G. E. BIGNELL

Many wells in East Texas oil fields are produced by gas lift. Others are started with either compressed air or gas. As the field gets older this method of producing the wells offers many possibilities.

A total of 888 permits to use air or gas lifts on East Texas wells have been granted by the Railroad Commission to date. Period of issuing these permits was divided as follows: 203 in 1935; 102 in 1934 and 583 in 1933 of which 239 were in one order and 221 in another. It does not follow that all wells are actually using this method of recovering their oil.

It is a general impression among producers that gas lift plants are only profitable when operated upon a large scale. This idea came from the size of plants installed in many fields where the purpose was to increase daily rate of flow beyond natural flow capacity of the wells. Under such conditions large plants were essential. In East Texas the daily well allowable is about 28 bbls. and as additional wells are completed this allowable will be reduced.

This condition makes it necessary for the operators to consider the type of installation that will best serve these wells at the present or a lesser producing rate. The number of wells economically served by one plant will tend more to determine the size of the equipment used than any other factor.

Cost of Recovery

Based upon past experience in East Texas it is possible to so design and install gas lift plants and to so operate them that the cost per barrel of oil recovered will not exceed 10 to 25 cents even though as much as 4 bbls. of water may be produced with each barrel of oil. When the water to oil ratio exceeds 5 to 1 it is probable other factors will enter into this production problem of greater importance than lifting costs.

For the small lease with five or six wells a gas lift plant can be installed for about $8,500. The wells can be equipped with kick off devices for about $500 each if the collars are placed about 300 feet apart in the tubing. Assuming the wells are already equipped with christmas tree, oil and gas separator and tankage, at the above estimated price each well can be equipped for gas lift for from $2,000 to $2,250 approximately. Pumping equipment for similar wells would cost from $2,500 to $5,000 per well.

Gas Requirements

To operate a gas lift plant in the East Texas Field it may be necessary to purchase natural gas to start the well to flow as there is no excess gas accompanying the oil in this field. Lindsly has stated that there is approximately 370 cubic feet per barrel of oil and this gas will not come out of solution until the pressure is reduced to less than 750 pounds.

The volume of gas needed will vary. When the formation pressure will flow the wells it is only necessary to add sufficient gas at relatively low pressure to start flow. Under this condition it is possible to start one well and flow it a short time. Producing at the rate of more than 20 bbls. per hour, to be assured of minimum paraffin deposition in the tubing, the well will yield about 7,500 feet of gas hourly. Using a compressor that will furnish 450,000 feet of gas at 200 pounds per square inch pressure per day, about 15 cubic feet of gas per horse power hour will be required if the two cycle type compressor is used. An engine rating of 90 horsepower requires about 1,350 feet of gas hourly.

For lifting the fluid in the well the volume of gas will vary depending upon the height of fluid column and type of mixture handled. At an average hourly demand of 250 feet of compressed gas per barrel of oil a well produced at 20 bbls. hourly rate will require 5,000 feet of input gas. Combining this volume of gas with the volume burned in the engine there will be about 15 per cent excess gas accompanying the oil.

Order of Flow

After the first well is started the others on the lease can be put on production and on a six well lease if each well makes its allowable in about two hours the plant will be required to run only during day light. This contemplates the period when oil only is produced. As water encroaches the volume of gas required will increase, but with a compressor large enough to provide gas for all wells at one time some additional gas will be available above the amount needed for the gas engine.

From the present known facts about East Texas Field it seems two things may happen. Some wells may decrease in volume and pressure without water entering them and therefore ultimately reach a low fluid level of oil. When formation pressure is less than 200 pounds the gas input required will be about 690 feet per barrel. Such a well may be best produced by intermittent gas lift without use of chamber at the bottom of the tubing.

The alternative condition will be ever increasing volume of water entering the well with the probability the fluid level will be within 500 to 800 feet of the surface. Under this condition the tubing can be run into the well to give about 60 per cent submergency thus securing high operating efficiency. The volume of fluid to be moved will necessitate more gas but this condition will be counterbalanced by the low head lift and the higher efficiency of operation possible.

Gas or Oil Fuel

When a well is not producing sufficient gas to furnish the plant with enough for operation, natural gas can be bought from gas systems now existing in the field, can be secured from gas wells in various parts of the field; or the engine head can be changed from gas to crude oil type.

The economy of this operation will depend upon cost of gas and volume needed, and the relative value of the crude oil, or the cost of fuel oil at the well.

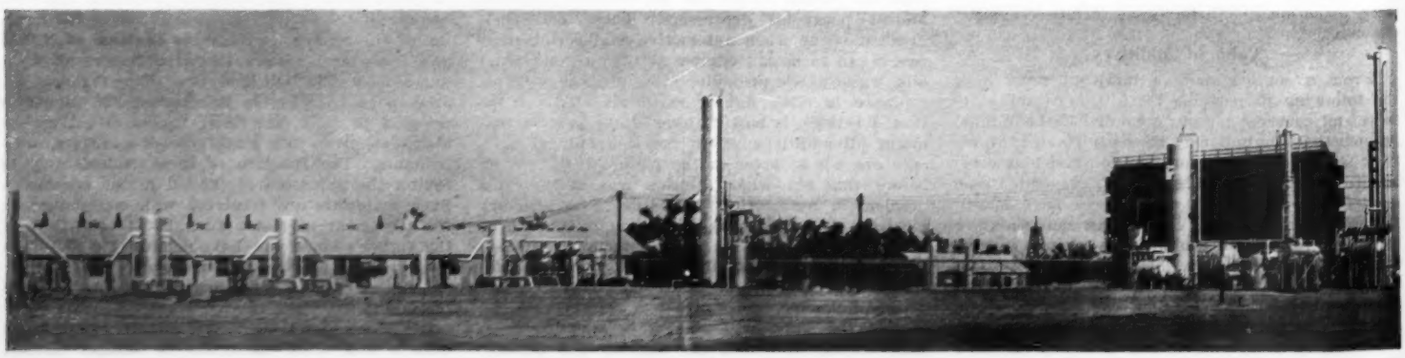
An engine of this type will use .6 pound of oil per brake horse power hour, approximately. For a 90 horse power engine a little over 4 bbls. per day would be needed. Natural gas price varies from 8 to 4 cents per thousand in East Texas making the fuel cost for a 90 horse power unit from $2.50 to $5.00 per day.

There are several natural gasoline plants in the field. Most contracts call for the return of the gas to the lease from which it is secured. One large company has laid a gas pipe line for this purpose and having the gas available at the wells is now using it to either kick off or produce them as individual requirements demand. This is the stage of development of gas lift in East Texas at this time and it is probable that companies owning a large number of wells will follow this system as occasion requires.

There is an advantage in installing gas lift plants even though little or no compressed gas is actually needed to flow the oil. It requires energy to lift the fluid to the surface and under natural flow conditions this energy is all supplied by natural forces. These natural forces must first deliver the fluid to the bottom of the well and then force it to the surface. If artificial energy is supplied to lift the fluid from the bottom of the well to the surface natural energy in like amount will be conserved. By this means additional fluid will be delivered to the bottom of the hole by the total available quantity of natural energy available within the radius of drainage around the well.

If it were desirable to produce the East Texas wells without restriction it would be profitable to flow them with compressed gas or air even though there might be sufficient natural energy available to produce them. The daily production rate would be higher if compressed gas or air were injected into the well and a greater volume of oil would be recovered from wells so operated than is recoverable from natural flowing wells.

East Texas oil field does not present many intricate problems to the gas lift engineer. It is entirely practicable for any type well and will secure the oil at costs low enough to justify its use.



Typical natural gasoline plant in East Texas. Residue gas from such plants is used to kick-off and produce many oil wells in this field

Trend in Average Volatility of Grades of Gasoline Upward for Years

By
G. G. OBERFELL
R. C. ALDEN and
H. M. TRIMBLE
Phillips Petroleum Company*

Since the U. S. Bureau of Mines discontinued its semiannual surveys early in 1931[91] only limited information[91, 92] has been available on the trend of volatility of motor fuels. This paper is presented with the hope that it will add to this information and indicate to some extent volatility trends.

Before going further it seems highly desirable that the relationship of vapor pressure and volatility be discussed since considerable confusion still exists as to their relationship. Volatility should be considered as of two phases, one intensive and the other extensive. The intensive factor is measured by the Reid vapor pressure determination while the extensive factor is measured by the Engler distillation. As further explanation, the following quotation is taken from the 1934 A.S.T.M. booklet, "The Significance of Tests of Petroleum Products":

"The Reid vapor pressure test indicates the initial tendency toward vaporization, while the distillation test provides a measure of the extent to which vaporization will proceed for a given set of conditions."

It should be clearly understood that two gasolines can have the same Reid vapor pressure and still have widely different Engler distillations. This is illustrated in Figure 5. Note that Gasoline X has considerably greater extensive volatility than Gasoline Y, but that both have a Reid vapor pressure of 7 pounds. As another study of vapor pressure and volatility, the following tabulation presents data on a group of butane free gasolines of different extensive volatilities:

Engler distillation, per cent evaporated at 212°F.	Reid vapor pressure in lbs./sq. in. abs.
30	3.3
40	4.5
50	5.7
60	6.9
70	8.1
80	9.3
90	10.5

Note that as the extensive volatility increases the Reid vapor pressure increases. This tabulation is representative of the blends of two butane free gasolines, one of which has low extensive volatility and the other high extensive volatility. Therefore, it follows that if the extensive volatility is to be increased without increase of vapor pressure it will be necessary to remove some of the lighter fractions of the gasoline.

It is not necessary to go very done on the correlation of engine performance characteristics with the A.S.T.M. Engler distillation and Reid vapor pressure.[1-5, 7-80, 82-90] The voluminous amount of published data on this subject renders it very difficult to give credit to all of the investigators. Therefore, in the ensuing paragraphs direct references have been omitted. A lengthy and detailed discussion could be made on the published data; in fact, it could be a symposium in itself and, therefore, we would soon find ourselves far from our assigned subject. A brief summary seems advisable, though, in order that we may better understand the significance of the volatility of motor fuel.

Considerable work has been far in the literature before we find considerable data on the relationship of vapor pressure and vapor lock. Although there seems to be some disagreement as to the reasonably safe limits of Reid vapor pressure for a reasonable prevention of vapor lock, it is generally accepted that the higher the Reid vapor pressure the greater the tendency to vapor lock.

TABLE 1—1934 SALES PERCENTAGES OF IMPORTANT MARKETING COMPANIES IN EIGHT MID-CONTINENT STATES

Compared With Per Cent of Samples in Survey

	Companies					
	A	B	C	D	E	Others
Per cent of gasoline sold*	18.34	6.62	6.53	6.40	6.28	55.83
Per cent of samples in survey 1934	19.1	8.7	8.7	8.9	8.9	45.7
1933	20.3	9.4	9.8	10.1	8.9	41.5
1932	17.9	8.2	10.1	9.7	8.9	45.2
1931	14.8	6.5	5.6	3.7	7.4	62.0
1930	16.9	8.4	7.3	5.6	9.0	52.8
1929	21.3	8.2	5.8	7.7	8.2	48.8
1929-34	19.28	8.78	8.82	8.94	8.82	45.36

*In the eight states: Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Minnesota and Missouri, during the 12 months ending October 31, 1934.

The data on the correlation of the Engler distillation and engine performance appears even more voluminous. Here we find general agreement that the lower the Engler 10 per cent evaporated temperature the easier the starting. Now remembering that as the 10 per cent evaporated temperature decreases the Reid vapor pressure increases, it is realized that here are two factors that work against each other. This, of course, means only one thing. There must be close cooperation between the automobile manufacturer and the gasoline marketers. In order to get the 10 per cent evaporated temperature as low as possible without increasing the Reid vapor pressure, good fractionating of the light ends of the gasoline is required. This thought should be kept in mind.

With respect to the middle portion of the Engler distillation we find that it tells us about the warm-up and acceleration of the engine. We find the lower these temperatures the shorter the time required for the use of the choke and the faster the acceleration from slow speeds.

Now we come to the 90 per cent evaporated temperature of the Engler distillation. Probably this is the thing that is being investigated to the greatest degree at the present time because here we have the tie-up of power, mileage, manifold temperature, crankcase dilution and detonation. Just what the whole story is on this tie-up has not been completely verified, but certain possibilities have appeared so far. Probably the best way to explain these possibilities is by example. So let us assume that we have the optimum engine conditions for a fuel with a low 90 per cent temperature; that is, the correct low manifold temperature and the compression ratio such that we are just at point of incipient detonation. Now, if we compare the power obtained from the engine under these conditions with that obtained from this engine set for optimum engine conditions for a fuel with a higher 90 per cent temperature, we find appreciably more power developed by the fuel with the low 90 per cent temperature. It has also been shown that the lower the 90 per cent evaporated temperature the lower the manifold temperature for given degree of crankcase dilution; the higher the manifold temperature the greater the tendency of a given fuel to detonate.

The preceding discussion has been very general and there are a number of details that need be discussed to cover this subject and to possibly clear up discrepancies. For instance, it can be demonstrated that of two gasolines with the same 10 per cent evaporated temperature the one with the lowest 50 and 90 per cent points would start the easiest at a good many temperatures. There-

TABLE 2—HOUSE BRAND MOTOR FUELS

Distribution of Samples by Cities

Cities—	1929				1930				1931				1932				1933				1934			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Akron, Ohio, and vicinity	..	6	2	1	4	2	2	1	3	4	3	1	1	1	2	4	7	4	3	3	4	2	2	3
Amarillo, Tex.	..	3	4	6	3	5	2	3	2	3	1	..	1	..	9	10	6	7	11	34	12	..	10	..
Bartlesville, Okla.	9	14	3	5	8	3	5	1	3	2	3	2	..	5	..	2	1	2	1	6	4	1	..	..
Chicago, Ill.	..	..	..	..	..	..	..	..	..	..	2	1	3	2	8	11	11	11	12	61	26	23	14	20
Denver, Colo.	..	..	..	..	1	..	2	..	..	..	..	1	..	1	..	11	12	12	11	35	13	24	11	22
Des Moines, Iowa	3	2	..	1	1	1	..	1	..	..	1	1	2	..	1	12	11	12	11	51	23	..	11	1
Indianapolis, Ind.	..	..	2	6	4	5	2	3	3	1	2	1	3	1	1	12	12	11	12	36	26	24	13	23
Kansas City, Mo.	..	5	6	7	5	6	2	1	1	..	2	4	..	1	7	11	12	12	12	59	25	24	13	20
Milwaukee, Wis.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25	38	25	9	21	20
Minneapolis, Minn.	..	4	5	5	4	6	4	..	3	1	3	1	2	1	12	13	13	12	12	51	25	24	13	19
Omaha, Neb.	..	4	6	6	8	7	1	1	1	2	1	..	..	..	12	12	12	12	12	35	24	1	13	..
Peoria, Ill.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	12	10	12	10	37	26	1	12	..
Pontiac, Mich.	..	3	10	1	6	5	2	4	6	4	6	3	7	5	3	..	..	..	1	1	..	..	1	1
St. Louis, Mo.	12	3	9	8	5	6	4	3	5	4	3	1	2	2	9	10	11	10	9	63	24	24	11	20
Tulsa, Okla.	4	10	2	10	9	7	4	1	1	3	6	2	4	1	..	10	11	11	12	35	23	23	12	22
Wichita, Kans.	..	..	1	..	1	..	1	..	..	..	..	..	1	..	1	11	12	11	12	35	13	1	13	1
Others	6	8	..	5	5	7	3	..	2	1	1	1	1	1	..	..	..	..	..	..	..	..	..	13
Quarterly totals	34	62	50	61	64	60	35	19	30	25	24	19	27	21	75	141	141	139	166	580	293	181	170	185
Yearly totals		207				178				108				264				1,026				829		

TABLE 3—PREMIUM MOTOR FUELS

Distribution of Samples by Cities

Cities—	1929				1930				1931				1932				1933				1934			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Akron, Ohio, and vicinity	..	3	4	1	2	3	2	1	3	4	3	1	1	1	2	2	4	2	1	2	4	2	2	2
Amarillo, Tex.	..	3	2	1	3	1	2	3	1	2	1	..	..	..	6	6	5	6	6	12	4	..	1	..
Bartlesville, Okla.	7	9	1	5	5	2	7	2	4	1	4	2	1	..	4	6	6	6	6	6	4	3	3	3
Chicago, Ill.	..	..	..	..	..	..	..	..	..	..	1	1	4	2	8	6	6	6	5	12	8	7	3	4
Denver, Colo.	..	..	..	..	..	..	1	..	..	..	..	2	..	2	2	6	6	6	6	12	3	3	3	3
Des Moines, Iowa	..	..	..	..	..	..	..	..	..	..	1	1	2	..	2	6	6	6	7	9	5	..	..	..
Indianapolis, Ind.	..	..	3	5	1	6	1	5	2	2	1	1	3	1	3	6	6	6	6	12	9	9	6	7
Kansas City, Mo.	..	3	5	3	6	5	1	2	2	2	3	2	1	1	10	9	9	9	9	15	11	3	3	3
Minneapolis, Minn.	..	2	3	5	5	5	5	3	4	4	4	2	3	2	7	9	9	9	10	9	6	3	3	3
Omaha, Neb.	..	5	3	4	4	2	2	2	3	3	2	1	..	..	5	6	6	6	6	12	5	..	..	..
Peoria, Ill.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	6	6	6	5	12	8	..	..	..
Pontiac, Mich.	..	..	3	1	6	6	5	6	5	3	3	2	4	2	1	..	..	..	2	1	..	..	1	1
St. Louis, Mo.	6	3	5	3	4	9	5	4	5	5	2	2	3	2	6	5	7	6	7	12	3	..	..	..
Tulsa, Okla.	3	6	4	6	6	6	5	1	1	4	4	2	3	1	..	3	3	3	3	10	6	6	3	4
Wichita, Kans.	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	6	6	6	6	12	2	..	..	..
Others	4	2	..	1	4	6	2	..	2	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..
Quarterly totals	20	36	32	35	46	51	38	29	32	30	30	19	27	15	63	82	85	83	85	148	83	36	28	30
Yearly totals		123				164				111				187				401				177		

*Presented before annual meeting S.A.E. in White Sulphur Springs, W. Va.

fore, it is easy to see that a discussion of this sort must not be taken too literally.

With the correlation of volatility and engine performance in mind and the fact that in the last five years great changes in the refining of gasoline have come about because of the demand for higher octane numbers, it becomes increasingly important to know how and to what extent the volatility of fuels has changed. It should be remembered that these improvements of octane number have been accomplished without the benefit of increased selling price and in spite of increased taxation. Therefore, conservation has been an economic necessity in the face of this and the extremely keen competition of the past five years. Since these things appear to be with us to stay it becomes exceedingly important to know the volatility trends in order that the best possible economic adaption of engines to fuels may be brought about.

Samples of Motor Fuel

Our company conducts a survey of gasolines sold in its marketing territory. The data obtained in these surveys from 1929 to 1934, inclusive, have been used to present the trends shown in the figures of this paper. The data on 4,813 samples were used in arriving at the averages shown. These samples are divided among the various grades as follows:

House brand fuels	2,612
Premium fuels	1,038
Third grade fuels	1,163

These samples were secured for the most part in the following 16 cities: Akron, Ohio; Amarillo, Tex.; Bartlesville, Okla.; Chicago, Ill.; Denver, Colo.; Des Moines, Iowa; Indianapolis, Ind.; Kansas City, Mo., and Kans.; Milwaukee, Wis.; Minneapolis, Minn.; Omaha, Neb.; Peoria, Ill.; Pontiac, Mich.; St. Louis, Mo.; Tulsa, Okla., and Wichita, Kans.

It is obvious that the trends indicated in this paper deal chiefly with the gasolines marketed in the Mid-Continent area.

Tests Conducted

In making the Reid vapor pressure and Engler distillation tests, A.S.T.M. procedures were followed.

The abbreviations used in this paper, together with their meanings, are as follows:

Reid vapor pressure or R.V.P. = Reid vapor pressure at 100° F. in pounds per square inch absolute.

Per cent temperature or % Evap. Temp. = Temperature of Engler distillation in deg. F. for given percentage evaporated.

The four volatility characteristics appraised are the Reid vapor pressure and the Engler distillation temperatures at 10, 50 and 90 per cent evaporated.

Data Obtained

The samples have been divided into three groups, house brands, premium and third grade. These groups were then subdivided according to the year and the quarter of the year the sample was secured. The months in each quarter are as of the quarters of the calendar year, that is, the first quarter, January, February and March, and so on.

The data on the samples in each quarter were averaged for each group to obtain the values shown in the figures. In addition, on the house brand samples the averages for highest 20 per cent and lowest 20 per cent were obtained for each quarter. The data in the figures are shown by quarters.

To determine the relationship of sales to frequency of samples of the various brands, a study was made of the sales of the companies in eight states in the territory (limited because of availability of tax return information). The sales pe-

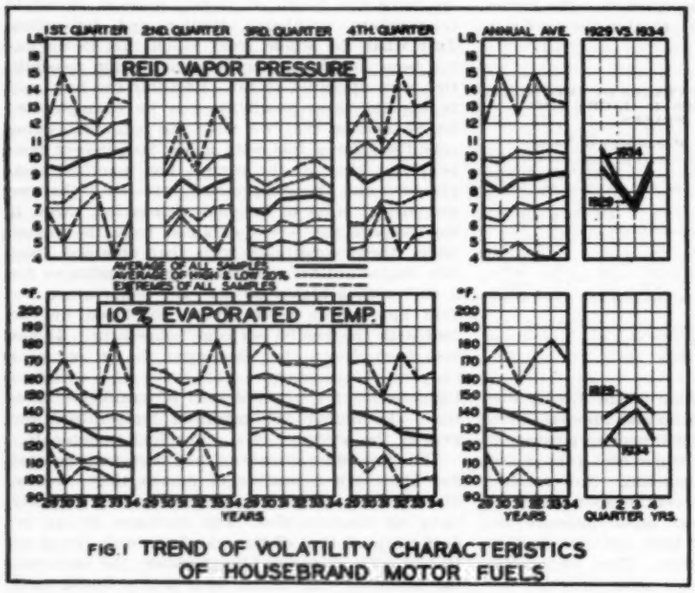


FIG. 1 TREND OF VOLATILITY CHARACTERISTICS OF HOUSEBRAND MOTOR FUELS

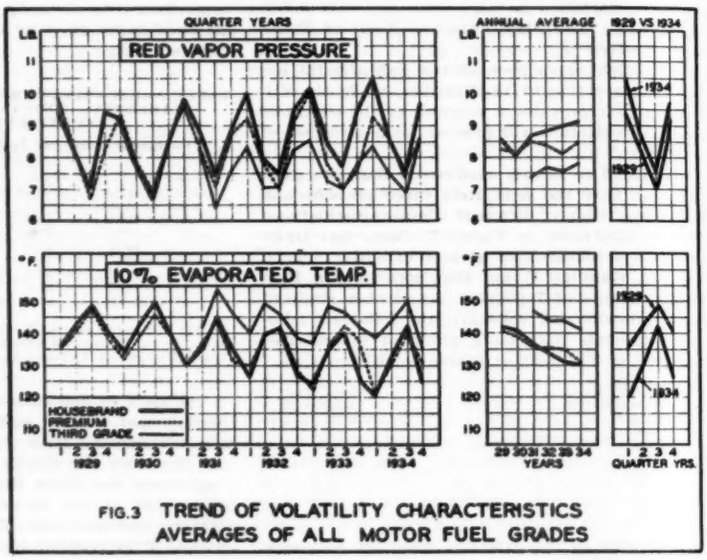


FIG. 3 TREND OF VOLATILITY CHARACTERISTICS AVERAGES OF ALL MOTOR FUEL GRADES

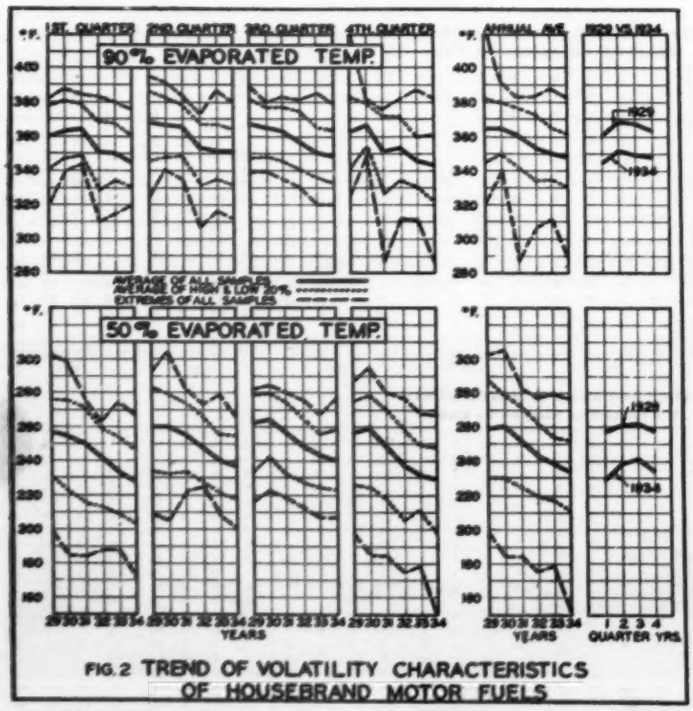


FIG. 2 TREND OF VOLATILITY CHARACTERISTICS OF HOUSEBRAND MOTOR FUELS

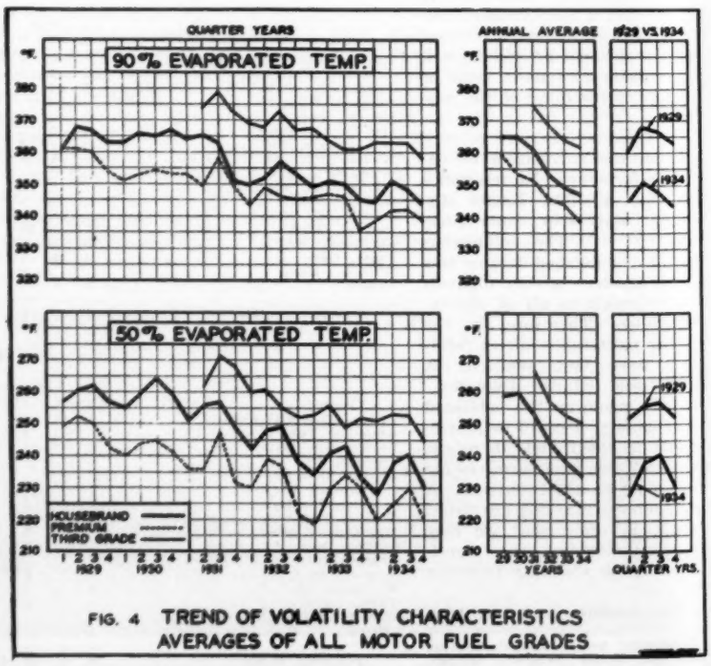


FIG. 4 TREND OF VOLATILITY CHARACTERISTICS AVERAGES OF ALL MOTOR FUEL GRADES

riod covered was from November 1, 1933, to October 31, 1934. Table 1 shows the relationship of the sales of the first five companies in this period to the frequency of our survey samples of the house brand gasolines of these companies.

Tables 2, 3 and 4 present the distribution of samples by the cities in which they were secured. Table 2 gives the distribution of the house brand motor fuel samples; Table 3, the premium fuels; and Table 4, the third grade fuels.

The yearly averages of the four volatility characteristics for each grade are given in Table 5. These averages were obtained by averaging the quarterly averages of each grade.

TABLE 4—THIRD GRADE MOTOR FUELS
Distribution of Samples by Cities

Cities—	1931				1932				1933				1934			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Akron, Ohio, and vic.	..	..	..	1	..	1	2	1	2	1	1	2	4	2	2	2
Amarillo, Tex.	..	..	..	..	..	..	6	7	5	6	7	12	5	2	4	2
Bartlesville, Okla.	..	..	..	3	2	1	4	6	6	6	6	6	4	3	3	3
Chicago, Ill.	..	4	2	2	3	2	8	6	5	6	5	12	9	10	6	16
Denver, Colo.	..	..	..	..	..	..	2	6	6	6	7	13	6	9	6	11
Des Moines, Iowa	..	..	1	..	1	..	2	6	7	6	6	9	8	2	4	2
Indianapolis, Ind.	..	2	2	1	5	1	3	6	6	6	6	12	9	9	6	14
Kansas City, Mo.	..	3	1	..	..	..	7	7	6	6	6	12	9	8	6	28
Milwaukee, Wis.	..	..	..	..	..	..	..	..	..	..	..	..	..	6	9	12
Minneapolis, Minn.	..	..	3	2	2	..	5	6	6	6	6	9	9	9	6	14
Omaha, Neb.	..	1	3	..	1	..	5	6	6	6	6	12	9	3	6	8
Peoria, Ill.	..	..	..	..	..	..	6	6	8	6	8	12	8	2	4	2
Pontiac, Mich.	..	2	3	1	3	1	1	..	..	..	2	1	..	..	1	1
St. Louis, Mo.	..	3	1	..	..	..	10	9	6	8	10	12	9	9	6	29
Tulsa, Okla.	..	10	6	..	2	2	..	3	3	3	3	10	7	6	3	9
Wichita, Kans.	..	2	..	..	2	..	2	7	6	7	6	12	6	3	6	3
Others	..	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Quarterly totals	0	29	22	10	21	8	63	83	78	79	85	146	102	83	78	151
Yearly totals		61				175				388				414		

Discussion of Results

From Table 1 it can be easily seen that the relationship of sales of the first five companies to the frequency of our survey samples of the house brand gasoline of these companies is very good. Therefore, the averages are reasonably well weighted on the basis of sales.

A study of tables (2, 3, 4) giving the distribution of samples by cities immediately shows that most of the samples were secured in the territory and 16 cities previously mentioned.

It is noted that according to the yearly averages (Table 5) the house brand gasolines have been increasing appreciably in volatility, especially at the 50 and 90 per cent points.

The premium gasoline averages show an increase in volatility very similar to that for the house brand gasoline. The only difference is that the Reid vapor pressure of premium gasolines has not increased. The yearly averages also show an increase in volatility even for the third grade gasolines. This increase is of smaller magnitude than the increases for the other two grades but mainly because the period covered by the third grade gasolines was four years instead of six as for the others.

In Figure 1 the characteristics of the Reid vapor pressure and 10 per cent evaporated temperature of the house brand gasolines are shown. The data plotted are the extremes, that is, the highest and lowest volatility; the average of the highest and lowest 20 per cent; and the average. These data have been shown by seasons, that is, the first quarter of all years is shown in one plot, the second quarter in another and so on. The annual averages are shown graphically and the 1929 average is compared by seasons with the 1934 average.

Figure 2 covers the 50 and 90 per cent evaporated temperatures of the house brand gasolines in the same manner as Figure 1 covered the Reid vapor pressure and the 10 per cent point.

The averages by quarters of each of the three grades of gasoline are plotted chronologically in Figures 3 and 4. The annual averages of each characteristic of each grade are also shown and the 1929 average of house brand fuels compared by seasons with the 1934 average. Figure 3 shows these averages for Reid vapor pressure and 10 per cent evaporated temperature, while Figure 4 shows those for the 50 and 90 per cent evaporated temperatures.

A study of the Figures 1 to 4 shows that the volatility of motor fuels has definitely increased and apparently irrespective of grade. The Reid vapor pressures and 10 per cent evaporated temperatures have not changed as much as have the 50 and 90 per cent evaporated temperatures. The change in the latter two has been very drastic. It should be noted that even though this change has been drastic the difference in volatility of the extreme fuels is exceedingly great.

An interesting point, as illustrated in Figures 1 and 2, is that the 1934 averages of the 20 per cent most volatile fuels are approximately equal to the most volatile fuel of 1929. Also the 1929 averages of the 20 per cent least volatile fuels are approximately equal to the least volatile fuel of 1934. Also note the good control of the Reid vapor pressure in the summer (third) quarter of the years studied.

The relationship of the change of the average Reid vapor pressure and 10 per cent evaporated temperature is noteworthy, especially in the case of the premium gasolines. For this grade of fuel the yearly average 10 per cent temperature has been lowered appreciably without a corresponding increase of Reid vapor pressure.

The following observations relate particularly to the house brand gasolines but in general are applicable to the other two types of gasolines. From less complete information these observations also apply generally to the gasolines marketed in other sections of the country.

In spite of the fact that much less composite change has occurred in front end volatility over the six-year period, most gasoline marketers emphasize this quality in effecting seasonal variations. This is apparent from the small plots at the extreme right of Figures 3 and 4. Even in 1929 there was an extreme seasonal fluctuation in vapor pressure. In 1934 the seasonal fluctuation was only slightly greater and at a numerical level only slightly higher. The 10 per cent point shows a considerable increase in seasonal fluctuation at a considerably higher level of volatility.

The comparative constancy of vapor pressure practice on the part of gasoline marketers is a tribute to the spirit of co-operation engendered by the studies of the vapor lock problem carried on co-operatively by the refining and automobile industries.

At the 50 per cent point there is to be found the greatest increase in volatility, together with a substantial change in seasonal fluctuations. In 1934 we find an average seasonal range of about 12° F. at this point as compared with only 5° F. in 1929. Also, the 50 per cent point has dropped some 26° F.

In further consideration of the changes in the mid-portion of the distillation curve it is interesting to note in the lower left-hand segment of Figure 4 that the average winter fuel becomes the average summer fuel of the next year. This trend shows only the slightest indications of abatement.

The 90 per cent point has shown a marked increase in volatility, with, however, practically no compensation for seasons either at the beginning or end of the six-year period. The trend toward increased volatility at the 90 per cent point shows somewhat more tendency toward abatement than does the corresponding trend for the 50 per cent point.

In all the changes that have been described there is one outstanding factor and that is the departure from the average volatility in both directions is extreme and surprisingly uniform. Thus, approximately the same differences are to be observed between the extremes for all features of volatility throughout the six years.

These changes in the volatility of motor fuel are brought about by complex and powerful economic forces within the oil industry over which the gasoline manufacturers have little or no control. However, because fuel induction systems are sensitive to changes in the volatility of available gasolines it behooves the engineers of the oil and automobile industries to be thoroughly acquainted with the trends so that King Motorist may obtain the most convenient and economical transportation.

Summary of Results

In summation the following things seem very apparent from the data presented:

1. The volatility of Mid-Continent motor fuels has increased appreciably during the period from 1929-1934.

2. This increase of volatility has occurred almost in the same degree in each of the three grades of motor fuel.

3. Of the four points considered in this paper, namely, Reid vapor pressure, 10, 50 and 90 per cent evaporated temperature, the 50 and 90

TABLE 5—YEARLY AVERAGES* OF HOUSE BRAND, PREMIUM AND THIRD GRADE GASOLINES

House Brand Gasolines

Year—	R.V.P.	Engler distillation temperature, ° F. 10% evap.	50% evap.	90% evap.
1929	8.6	142	259	365
1930	8.0	141	260	365
1931	8.7	137	253	361
1932	8.8	134	244	353
1933	9.0	131	238	349
1934	9.1	130	234	347

Premium Gasolines

Year—	R.V.P.	Engler distillation temperature, ° F. 10% evap.	50% evap.	90% evap.
1929	8.3	141	249	359
1930	8.1	139	243	353
1931	8.5	136	238	352
1932	8.4	135	232	346
1933	8.2	135	228	344
1934	8.5	132	224	339

Third Grade Gasolines

Year—	R.V.P.	Engler distillation temperature, ° F. 10% evap.	50% evap.	90% evap.
1929	..	...	...	...
1930	..	...	...	...
1931	7.4	147	267	375
1932	7.7	144	257	369
1933	7.6	144	253	364
1934	7.8	142	251	362

*Obtained by averaging the quarterly averages of these products.

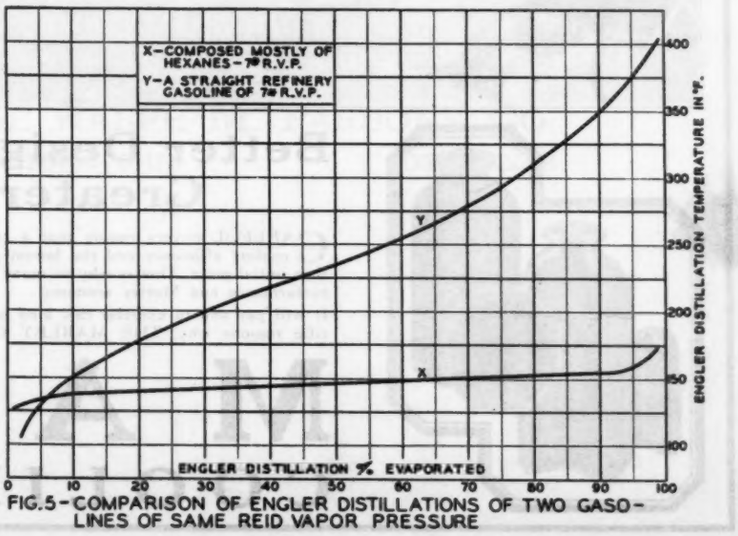


FIG. 5—COMPARISON OF ENGLER DISTILLATIONS OF TWO GASOLINES OF SAME REID VAPOR PRESSURE

per cent points have shown the greatest increase in volatility.

Acknowledgments

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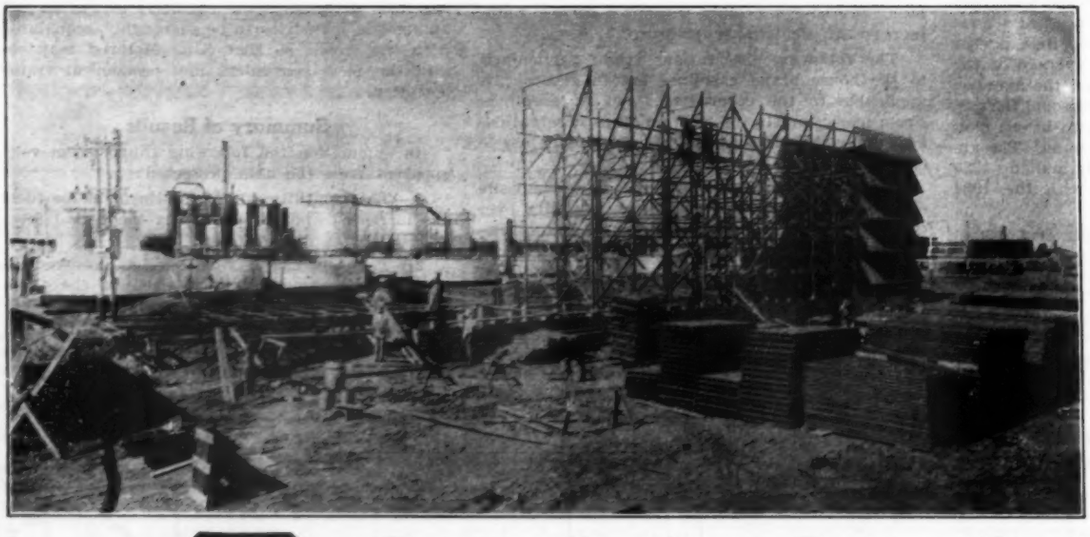

Left—Construction view large Marley oil refinery cooling tower, showing strongly reinforced framing and standard Marley louvres and decks in foreground, ready for installation.

Below—Marley patented spray nozzles lead the field in sales because they provide better water distribution and break-up and operate efficiently under low pressures. Standard equipment on all Marley cooling systems.

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It will pay you to exercise this kind of "buymanship" on you next water cooling installation. Write us for specific reasons why. THE MARLEY COMPANY, 1915 Walnut, Kansas City, Mo.

MARLEY
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Midco Deep Well Comes Back; Oklahoma Pools Extended

Midco Oil Corp.'s No. 1-A Yost, in Section 22-23-2w, Billings Pool, Oklahoma, was on production again on Sunday. Water had broken in and flooded the oil production out, but it is now thought the water came in from behind the pipe. A shutdown of several days appears to have given the cement a chance to set and when opened the well produced about 1,000 bbls. of oil in 10 hours from Arbuckle lime at 4,240-47 feet.

The most closely watched well in Oklahoma in the past 10 days has been Sinclair Prairie Oil Co.'s No. 1 Corbett, NE NW NE Section 17-13-3w, in the Britton townsite, Oklahoma County. The company had been withholding information on the well while it was drilling, which whetted the news appetite of the scouts for other companies. It is reported that saturated cores were taken and the hole will be reamed to 6,696 feet, total depth, tubing run, and the well washed in. Tankage is built. Meanwhile Mabee Consolidated Corp. was rigging up No. 1, SW SE NE Section 20-13-3w, and Burns Oil Co. spudded No. 1 Owens, SW NE SE Section 29-13-3w.

Pure Oil Co.'s No. 1 Malm, SE cor. Section 30-14-3w, Edmond Pool, Oklahoma County, cored Wilcox sand at 6,609-18 feet and recovered 7½ feet of well saturated oil sand and was drilling at 6,657 feet.

The most easterly oil well in the Fitts Pool, Amerada Petroleum Corp.'s No. 1 Smith, SE SW NW Section 28-2-7, which had Bromide at 3,923 feet, sands at 4,035 feet and 4,117 feet, and McLish at 4,140-54 feet, total depth, flowed through tubing for six hours with the following results in barrels per hour: 146, 84, 76, 70, 52 and 56, or an average of 80.67 bbls. per hour.

Phillips Petroleum Co.'s No. 11 Norris, NE NW SW Section 25-2-6, Fitts Pool, flowed 804 bbls. the first hour and 390 bbls. the next 30 minutes, through casing and then 189 bbls. in one hour through tubing. Bromide lies at 4,110 feet, sands at 4,210 feet and 4,285 feet, total depth 4,311 feet. Two other near completions were E. H. Moore and others' No. 2 Harper, SE NW NE Section 29-2-7, which flowed 526 bbls. the first hour through casing, total depth 4,280 feet, and No. 1 Smith-B, SW SE SE Section 25-2-6, 320 bbls. in eight hours, after having been acidized, total depth 4,285 feet.

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PROBLEMS FROM READERS

Edited by T. F. Smiley

Removing Refuse From Rotary Mud by Use of "Cracking" System

Will you be kind enough to tell me about a method of conditioning the mud used in rotary drilling which is called the "cracking" method? I believe it is used by some drillers in either California or Texas. I believe the method uses a settling tank of some sort and a device for working refuse material out of the returns from the well.—O. H. D.

The system of conditioning mud to which you refer is probably one adopted by the Edwards Drilling Co. and first used by that concern putting down a well for the Pure Oil Co. in Galveston County, Texas. It includes a process for "cracking" the mud, along with a series of traps and pits and other facilities for separating muds of differing qualities.

In operation of the system returns from the well are directed into a circular steel combination surge and settling tank with a conical bottom and having a capacity of 50 bbls. In the interior is an arrangement of baffles to force the incoming stream of fluid, laden with cuttings of sand, clays, shales, etc., to travel in a circular direction entirely around the tank, downward 4 feet and upward 6 feet to a skimmer from which the fluid enters the mud-cracking machine.

Jets in the bottom of the tank permit streams of water under pressure to cause agitation. When additional mud or weight is desired the water is turned on, forcing, by agitation, more of the heavier material to the top and over into the cracker. When this mud is not needed the water is turned off, permitting the heavy sands, gravels, shales, etc., to settle to the conical bottom to be jetted by steam pressure to a refuse pit. With the water off, only the lighter clays and shales, which are on top, are able to leave the tank, the quantity depending on the degree of agitation in the tank.

The cracker proper is a centrifugal machine having a shaft with a double helix of rubber broken at frequent intervals and encased in a horizontal steel shell. The shaft operates on torque and thrust bearings, being driven by a small, twin steam engine. For mud with a viscosity ranging from 25 to 40 centipoises only 1 horsepower is required. Below the shaft is an oil-well type screen wound backwards so that the flat side of the trapezoid wire has a larger opening below the screen than on the face of the screen, thus preventing clogging. It is wound to approximately 40 mesh.

In the high-speed, centrifugal action of the drive the clays and shales in the fluid coming over from the surge tank are broken down ("cracked"), and are thoroughly mixed with the water into a homogeneous, stable and colloidal mixture and are pressed through the screen into the system. In this operation entrained air or gas is released, and also coarse sands and materials which will not make mud and which cannot pass through the screen are ejected into a collection pit and then jetted by steam to the refuse pit.

From this machine the fluid flows through a high-velocity steel ditch into one end of a long rectangular earthen pit. This pit is divided into three sections by two wooden dams, or traps, placed across the pit at intervals. The traps, one set a little lower than the other, cause the fluid to flow slowly in successive stages down to the last pit, from which the pumps are fed. The first pit, or section, serves as a final settling basin. There, much of the fine sand, which may have passed through the centrifugal cracking machine, drops to the bottom to be jetted by steam through a line to the refuse pit. The fluid which is on top and flows over the top of the trap into the second, or middle, section of the pit is the good mud for the pumps.

This middle section serves as an accumulation basin for the good mud, which overflows into the pit which feeds the pumps. Adjoining these pits is a large earthen reserve pit. Lines connecting them permit the jetting by steam of surplus mud from the working pits into the reserve pit. Return lines permit the flowing of this mud back into the system as needed simply by opening the valves in the lines.

An effort has been made here to give you as much detailed information concerning this "cracking" system as possible, but you will recognize the task is difficult without the aid of drawings.

Readers are invited to send questions relating to drilling, producing and transporting operations. These questions will be placed in the hands of persons capable of answering them authoritatively. The names of those writing for information will be considered confidential, initials only being published. This department cannot undertake to answer questions involving patents or intricate formulas or those which properly should be submitted to consulting engineers or geologists

Why It Was Called *CANADIAN*

The Canadian River, which marks the south boundary of the rich Seminole oil fields, is believed first to have been so called by trappers from Canada, who some 300 years ago worked their way up the Arkansas River and its tributaries, seeking furs and trading with the Indians. They established a trading post near the mouth of the stream. Some students incline to the belief the name is taken from the Spanish "canada" or "canadiano," diminutives for "canon," and referring to the canyon through which the river runs in New Mexico

Deciding on the Size and Length of Tubing in Installing Gas-Lift

I am interested in finding out how calculations are made in determining the length of the various sizes of tubing for use in gas-lift installations where tapered strings of tubing are used. May I turn to you for some information on this point?—T. G. N.

The use of tapered strings of tubing has created considerable discussion among production engineers and there are many arguments both for and against this practice. The fact that many old wells have been made to flow naturally by running a correctly proportioned string of tapered tubing is a rather definite advantage for this method of producing a well. On the other hand it has been shown also on wells of similar characteristics in new fields that the advantage to be gained by use of tapered tubing are negligible.

Reviewing the arguments it would seem that tapered strings are of advantage in wells where the natural energy from the formation is very limited.

To calculate size and length of the different strings of tubing to be used in a well it is suggested that you refer to the paper and graphs prepared by R. R. Hawkins, the Texas Co., Tulsa, published in the October 8, 1931, issue of The Oil and Gas Journal. This paper is also published in Petroleum Development and Technology, 1932, A. I.M.E. Transactions with additional graphs prepared by C. C. Carlisle, Sinclair Prairie Oil & Gas Co., covering velocity pressures for standard and extra strong pipe.

Weight and Other Specifications of Certain Types of Steel Tanks

Will you please tell me the total weight of a 55,000-bbl. steel tank and of an 80,000-bbl. steel tank, old style, and the total weight of the same size steel tanks, new style? What size steel does each of these sizes of tanks have in it?—A. I.

The questions you ask about 55,000-bbl. and 80,000-bbl. tanks, old and new style, may be answered by giving you one specification for each kind of tank, but to cover any particular tank would require that the manufacturer's specifications be obtained.

The old type 55,000-bbl. riveted steel tanks were 114 7/12 feet in diameter and 30 5/12 feet high and they had six rings of steel in the sides. The courses in the shell were one-half inch at bottom, and seven-sixteenths next above, with the upper courses of 000, 0, 3 and 6 gauge, respectively. The bottom was 6 gauge and the size of angles 4x⅝ and 3x⅝ inch. The deck was usually of wood covered with tar paper. The weight, without steel roof, was approximately 280,000 pounds. With three-sixteenths inch steel roof, the weight was 400,000 pounds.

The old type 80,000-bbl. riveted steel tanks were 119 4/12 feet in diameter and 40 4/12 feet high and they had eight rings, made respectively of ⅝, 17/32, ½, 7/16, ⅜, 5/16, ¼ and 6 gauge steel. Bottoms were of ¼-inch and 6-gauge steel. The weight, without steel deck, was 400,000 pounds and for a 7/16-inch deck add 150,000 pounds.

There are no 55,000 and 80,000-bbl. tanks of the new A.P.I. specifications. It is suggested that you send 75 cents to the A.P.I. Division of Production, 1508 Gulf States Building, Dallas, Tex., for a copy of specification on standard tanks with riveted shells. The nearest equivalents are a 51,000-bbl. tank weighing 325,000 pounds without deck, and the 82,000-bbl. tank weighing 450,000 pounds without deck. But you need to get the specifications for the new tanks if you want full details.

East and East Central Texas

SEVEN WILDCATS GIVEN UP AS DRY IN EAST CENTRAL TEXAS

By L. E. BREDBERG

DALLAS, Tex., July 1.—Seven wildcats were given up as dry this week, one a Trinity sand test northwest of the Mexia Field in Limestone County, and one an interesting test about 3 miles southeast of the Rusk Pool in Cherokee County. There were no wildcat locations. Gulf Production Co. made two locations in the Camp Hill Pool, 7 miles southeast of Palestine in Anderson County. No. 2-A Southern Pine Lumber Co. is a south offset to Gulf Production Co.'s No. 1 Ross in the J. C. Rosson Survey, and No. 3-A Southern Pine Lumber Co. is an east offset to the same company's No. 1 Maddox producer. Both are considered inside locations and are preparing to spud.

Scott and Turpin's No. 1 Whiteman and Decker, in the J. H. Armstrong Survey, approximately 3 miles southeast of the nearest producer in the Rusk Pool, Cherokee County, was given up as dry at a total depth of 5,384 feet. Elevation is 546 feet. This is another defining marker to the southeast.

Douglas Exploration Co. abandoned its deep test in Nacogdoches County at a total depth of 5,061 feet. It is in the Santos Coy Survey, 7 miles northwest of the town of Nacogdoches. Another abandonment was J. W. Kemp Co.'s No. 1 Vol De Long, 2½ miles north of Thelma in Limestone County. It went to 2,876 feet. C. R. Brown's (Peyton Brothers) No. 1 Steubenrauch, a Trinity sand test northwest of the Mexia Field, Limestone County, was given up as dry after plugging back from the dry Trinity sand formation in an effort to produce from upper sands. The upper sands failed to produce oil but it is to be completed as a 1,000,000-foot gasser.

Two tests in Navarro County were given up as dry. Bennett Brothers' No. 1 Stewart, in the William R. Bowen Survey, 10 miles southwest of Corsicana, was abandoned at 1,186 feet. Codding and others' No. 1 Kent, in the C. B. Emmons Survey, 3 miles northeast of Chatfield, was abandoned at 1,340 feet.

Rusk Pool

The Rusk Pool in Cherokee County is due to get another completed producer within a few days. Wood and Young's No. 4 New Birmingham Development Co., north of its No. 3 producer and northeast of the discovery, is bottomed at 5,182 feet, 6 feet in the Woodbine section. It swabbed 100 bbls. of oil and no salt water, and is to be put on the beam. Estimates place it as a 150 to 250-bbl. pumper. This well is carried on some reports as No. 4 and on others as No. 5. It depends upon whether a junked hole is counted. The company will drill another test north of the new producer, and Shell Petroleum Corp. is preparing to drill southeast of No. 3 producer southeast of the discovery.

Joe A. Worsham's No. 2 Wathen, northwest of the same operator's extension discovery to the Cayuga Field, northwest Anderson County, is assured of making another short extension. It is bottomed at 4,050 feet waiting on cement to set. Another test in the northwest extension area, Hunt Production Co. and Stanolind Oil & Gas Co.'s No. 1 Loper, offsetting a producer, struck salt water when drilling to 4,106 feet and has been plugged back. It is expected to make a producer from the 4 feet of sand cored at subsea depth of 3,774 feet.

New Locations

A tentative location has been made in the southwest corner of the Jackson block about 5 miles south of the town of Nacogdoches in Nacogdoches County, for a Woodbine sand test. It is in the northeast corner of the William Maltby 60-acre tract in the P. W. Esparza Survey. The block includes the Kirby, H.E.&W.T., Haya, and other adjacent surveys.

Gulf Production Co. is to drill a Woodbine test on the Atlatl Royalty Corp.'s Alba block in the southwestern part of Wood County, in which county a test by the latter company is going to the Georgetown after picking up salt water and proving a non-producer from the Woodbine. Gulf assumed obligation to drill the Alba block for Atlatl and purchased lease on 1,000 acres under the block.

F. Soap has taken 3,500 acres in a block 2 miles north of Henderson in Rusk County, and is to drill a 3,200-foot test. The block falls in the Meador, Walling, Y'Barbo, Davis and adjacent surveys. The location has been made on the J. W. Shipman farm in the J. J. Y'Barbo Survey.

Tip D'Arman, of Tyler, has assembled a block around the town of Suffolk in Upshur County, in the J. B. Davenport Survey, and is to drill a Woodbine test. Another block has been taken 6 miles west of Coffeyville in this county, in the Wright, Gay, Smith, Bishop, and other surveys.

Killough and Tucker's No. 1 G. W. Lee, in the J. Burleson Survey, north of the nearest gasser in the Centerville gas area of Leon County, is shut down after showing 594 feet of salt water on drill stem test from 5,630-41 feet. It has been running lower than the Lee gas well and was considered as having good chances for picking up oil but will probably be abandoned.

EAST TEXAS FIELD

It is paradoxical that locations in the East Texas Field have been gaining since the Texas Supreme Court upheld well spacing rule No. 37. This week there were 117 locations staked, and last week there were 130. There apparently is nothing to stop staking of locations unless companies holding offset acreage to small tracts contest the issuing of permits.

There were 117 tests completed, 11 pumpers, 3 swabbers, 2 flowing by heads and 2 dry holes, one of which was a junked hole.

Texas Co. is plugging No. 9 Kersh, in the southwest corner of a 211-acre tract in the E. B. Foulks Survey, on the southwest edge of the field in Rusk County. It has been producing since November, 1932, salt water making it impractical to produce any longer. Subsea depth is 3,308 feet. Salt water has been gradually creeping eastward, particularly in the Overton, Gladewater and Kilgore areas, in which production has been especially heavy, and if all salt water wells were reported, it would be surprising to note the number making water. The Railroad Commission has been trying to make a complete survey of water producers, but not all producers will report wells making water.

EAST TEXAS COMPLETIONS

Gregg County

Amerada Petroleum Corp.'s No. 15 Bumpus, top pay 3,548 feet, total depth 3,577 feet, initial production 36 bbls. in 36 minutes; No. 12 Killingsworth, top pay 3,596 feet, total depth 3,626 feet, initial production 77 bbls. per hour; and No. 9 Tooke, top pay 3,515 feet, total depth 3,540 feet, with initial production 60 bbls. per hour.

Arkansas Fuel Oil Co.'s No. 6-A Harrison, top pay 3,582 feet, total depth 3,586 feet, initial production 19 bbls. in 15 minutes; and No. 8 Stevens, top pay 3,548 feet, total depth 3,573 feet, initial production 26 bbls. in 15 minutes. Empire Gas & Fuel Co.'s No. 18 Jeter, top pay 3,556, total depth 3,587 feet, initial production 32 bbls. in 15 minutes.

Faith Oil Co.'s No. 18 Barrett, top pay 3,672 feet, total depth 3,688 feet, initial production 20 bbls. in 20 minutes. Fields' No. 1 Moser, total pay 3,567 feet, total depth 3,618 feet, initial production 75 bbls. per hour. Gulf Production Co.'s No. 17 Bozeman, top pay 3,556 feet, total depth 3,598 feet, initial production 65 bbls. per hour; No. 41 Shepherd, top pay 3,476 feet, total depth 3,505 feet, initial production 75 bbls. per hour.

Humble Oil & Refining Co.'s No. 38 Hughes, total pay 3,654 feet, total depth 3,685 feet, initial production 78 bbls. per hour; No. 7-B Johnson, top pay 3,601 feet, total depth 3,635 feet, initial production 71 bbls. per hour. Magnolia Petroleum Co.'s No. 28 Everett, top pay 3,686 feet, total depth 3,688 feet, initial production 84 bbls. per hour; No. 17 Foster, top pay 3,584 feet, total depth 3,607 feet, initial production 108 bbls. per hour.

National Oil & Gas Co.'s No. 7 Moser, top pay 3,550 feet, total depth 3,586 feet, initial production 30 bbls. in 30 minutes. Rancho Oil Co.'s No. 4 Richey, top pay 3,587 feet, total depth 3,609 feet, initial production 65 bbls. per hour. Shell Petroleum Corp.'s No. 3 Cabinass, top pay 3,613 feet, total depth 3,622 feet, initial production 9 bbls. in 30 minutes, swabbing; No. 14 Slaton, top pay 3,546 feet, total depth 3,627 feet, initial production 80 bbls. per hour; No. 12 Stinchcomb, top pay 3,462 ft., total depth 3,507 feet, initial production 60 bbls. per hour.

Stanolind & Simms Oil Co.'s No. 4 Magrill, top pay 3,635 feet, total depth 3,685 feet, initial production 60 bbls. per hour; No. 21 Person, top pay 3,466 feet, total depth 3,524 feet, initial production 61 bbls. per hour. Sun Oil Co.'s No. 11-B Cooke, top pay 3,531 feet, total depth 3,605 feet, initial production 29 bbls. in 30 minutes. Superior Oil Co.'s No. 19-A Prichard, top pay 3,518 feet, total depth 3,559 feet, initial production 133 bbls. per hour. Sutton & Hawkins' No. 9 Whittaker, top pay 3,515 feet, total depth 3,532 feet, initial production 45 bbls. in 35 minutes.

Yount Lee Oil Co.'s No. 7-B Denson, top pay 3,611 feet, total depth 3,625 feet, initial production 55 bbls. hour through 11-16 inch choke; No. 10-A Fenton, top pay 3,557 feet, total depth 3,577 feet, initial production 50 bbls. per hour through 11-16 inch choke. Amerada Petroleum Corp.'s No. 8 Lacy, top pay 3,552 feet, total depth 3,567 feet; initial production 52 bbls. per hour; No. 9 Lacy, top pay 3,557 feet, total depth 3,567 feet; initial production 62 bbls. per hour.

Arkansas Fuel Oil Co.'s No. 23 Hughey-Ross, top pay 3,517 feet, total depth 3,544 feet, initial production 19 bbls. in 15 minutes. Barnsdall Oil Co.'s No. 10 Smith, top pay 3,584 ft., total depth 3,597 feet, initial production 32 bbls. in 30 minutes.

Beard's No. 3 Elder, top pay 3,530 feet, total depth 3,557 feet, initial production 20 bbls. in 5 hours, pumping. Clover Leaf Oil Co.'s No. 3-C Carr, top pay 3,520 feet, total depth 3,540 feet, initial production 25 bbls. in 20 minutes. Doss-Jones' No. 8 Hagler, top pay 3,561 feet, total depth 3,570 feet, initial production 75 bbls. per hour; No. 9 Hagler, top pay 3,581 feet, total depth 3,590 feet, initial production 100 bbls. per hour. Empire Gas & Fuel Co.'s No. 8 Walker, top pay 3,617 feet, total depth 3,618 feet, initial production 12 bbls. in 15 minutes. Foreman's No. 3 Rowland, top pay 3,521 feet, total depth 3,542 feet, initial production 10 bbls. per hour by heads; 4-A Rowland, top pay 3,518 feet, total depth 3,545 feet, initial production 10 bbls. per hour

by heads. Galvez Oil Co.'s No. 13 Cole, top pay 3,546 feet, total depth 3,565 feet, initial production 20 bbls. in 10 minutes.

Gralenor Oil Co.'s No. 6 King, top pay 3,658 feet, total depth 3,660 feet, initial production 75 bbls. in 30 minutes. Gulf Production Co.'s No. 43 Brown, top pay 3,520 feet, total depth 3,546 feet, initial production 73 bbls. per hour; No. 76 Hilburn, top pay 3,546 feet, total depth 3,571 feet, initial production 70 bbls. per hour; No. 17 Strong, top pay 3,715 feet, total depth 3,720 feet, initial production 60 bbls. per hour.

Luttes' No. 4 Register, top pay 3,701 feet, total depth 3,702 feet, initial production 35 bbls. per hour. McMahon's No. 12 Spear-Laird, top pay 3,656 feet, total depth 3,660 feet, initial production 30 bbls. in 30 minutes. Magnolia Petroleum Co.'s No. 4 Hale, top pay 3,555 feet, total depth 3,608 feet, initial production 20 bbls. in 2 hours, pumping; No. 32 Radford, top pay 3,615 feet, total depth 3,619 feet, initial production 80 bbls. per hour.

Tidewater Oil Co.'s No. 25 Barton, top pay 3,600, total depth 3,610 feet, initial production 7 bbls. in 5 minutes. Holt's No. 2 Wells, top pay 3,633 feet, total depth 3,636 feet, initial production 31 bbls. in 15 minutes. Weaver & Perry's No. 1 Culver, top pay 3,520 feet, total depth 3,556 feet, initial production 5 bbls. per hour, pumping.

Rusk County

Atlantic Oil Producing Co.'s No. 19 Brightwell, top pay 3,631 feet, total depth 3,661 feet, initial production 110 bbls. per hour. E. C. R. Oil Co.'s No. 2 Mayfield, top pay 3,570 feet, total depth 3,650 feet, initial production 500 bbls. daily, pumping. DeArmand & MacMillan's No. 13 Roberson, top pay 3,560 feet, total depth 3,675 feet, initial production 18 bbls. per hour, pumping. Georgian Corp. and Pollard's No. 1 Jones, top pay 3,650 feet, total depth 3,680 feet, initial production 20 bbls. per hour. Gulf Production Co.'s No. 8 Terrell, top pay 3,620 feet, total depth 3,629 feet, initial production 75 bbls. per hour, through ¾-inch choke. Prine's No. 2 Warren, top pay 3,808 feet, total depth 3,809 feet, initial production 22 bbls. in 23 minutes.

Humble Oil & Refining Co.'s No. 162 Crim, top pay 3,670 feet, total depth 3,720 feet, initial production pay 3,595 feet, total depth 3,620 feet, 75 bbls. per hour; No. 165 Crim, top initial production 80 bbls. per hour; No. 37-A Laird, top pay 3,647 feet, total depth 3,708 feet, initial production 60 bbls. per hour; No. 6 Roberson, top pay 3,600 feet, total depth 3,679 feet, initial production 40 bbls. per hour. Shell Petroleum Corp.'s No. 23 Russell, top pay 3,576 feet, total depth 3,645 feet, initial production 40 bbls. in 30 minutes.

Stanolind Oil & Gas Co.'s No. 10 Powers, top pay 3,703 feet, total depth 2,705 feet, initial production 17 bbls. in 20 minutes. Stroube & Stroube's No. 2-A Barton, top pay 3,692 feet, total depth 3,750 feet, initial production 60 bbls. per hour. Wilder & Ferrell's No. 4 Brox, top pay 3,617 feet, total depth 3,688 feet, initial production 70 bbls. per hour. Apple's No. 3 Kangerga, top pay 3,544 feet, total depth 3,645 feet, initial production 20 bbls. per hour, swabbing. Arkansas Fuel Oil Co.'s No. 9 Bealle, top pay 3,724 feet, total depth 3,745 feet, initial production 25 bbls. in 15 minutes. Atlantic Oil Producing Co.'s No. 9 Griffin, top pay 3,562 feet, total depth 3,650 feet, initial production 50 bbls. per hour.

British American Oil Co.'s No. 11 Kangerga, top pay 3,622 feet, total depth 3,644 feet, initial production 100 bbls. per hour; No. 8 Stone, top pay 3,678 feet, total depth 3,638 feet, initial production 100 bbls. per hour. Burwin Oil Co.'s No. 8 Smith, top pay 3,600 feet, total depth 3,670 feet, initial production 120 bbls. in 4 hours, swabbing. Fox and Butler's No. 5 Thrash, top pay 3,660 feet, total depth 3,734 feet, initial production 120 bbls. in 2 hours.

Gulf Production Co.'s No. 4 Perry, dry and abandoned. Humble Oil & Refining Co.'s No. 43 Blackwell, top pay 3,636 feet, total depth 3,656 feet, initial production 80 bbls. per hour; No. 44 Blackwell, top pay 3,651 feet, total depth 3,676 feet, initial production 80 bbls. per hour; No. 14 Glover, top pay 3,744, total depth 3,777 feet, initial production 40 bbls. per hour; No. 50-A Kangerga, top pay 3,625 feet, total depth 3,664 feet, initial production 75 bbls. per hour; No. 15 Pilgreen, top pay 3,702 feet, total depth 3,796 feet, initial production 60 bbls. per hour. Hunt Production Co.'s No. 15 Young, top pay 3,662 feet, total depth 3,750 feet, initial production 60 bbls. per hour. Lone Pine Oil Co.'s No. 4-C Pinkston, top pay 3,683 feet, total depth 3,687 feet, initial production 20 bbls. in 20 minutes. Luttes' No. 3 Alford, top pay 3,842 feet, total depth 3,845 feet, initial production 75 bbls. per hour.

Manahan Oil & Gas Co.'s No. 13 Neal, top pay 3,732 feet, total depth 3,737 feet, initial production 25 bbls. in 15 minutes. Marathon Oil Co.'s

Left to right: B. M. McGraw, assistant division superintendent Carter Oil Co., Ponca City, Okla. and George Wells, production superintendent Carter Oil Co., Crescent, Okla.

No. 76 Cross, top pay 3,646 feet, total depth 3,656 feet, initial production 66 bbls. per hour; No. 17 Graham, top pay 3,630 feet, total depth 3,668 feet, initial production 83 bbls. per hour; No. 27 Moore, top pay 3,632 feet, total depth 3,697 feet, initial production 32 bbls. per hour.

Marco Oil Co.'s No. 2 Gossett, top pay 3,690 feet, total depth 3,694 feet, initial production 40 bbls. per hour. Miller Production Co.'s No. 13 Bradford, top pay 3,530 feet, total depth 3,648 feet, initial production 35 bbls. per hour. Nivila Oil Corp.'s No. 2 Bradford, top pay 3,560 feet, total depth 3,620 feet, initial production 20 bbls. per hour, pumping. Octo Oil Co.'s No. 7 Stroud, top pay 3,536 feet, total depth 3,580 feet, initial production 6 bbls. in 2 hours, pumping; No. 4-A Tipps, top pay 3,544 feet, total depth 3,572 feet, initial production 16 bbls. in 2 hours, pumping.

Peachtree Oil Co.'s No. 2 Stroud, top pay 3,510 feet, total depth 3,661 feet, initial production 5 bbls. in 2 hours, swabbing. Phillips' No. 1 Wooley, dry and abandoned at 3,662 feet. Rusk County Crude Oil Co.'s No. 4 Wheelis, top pay 3,758 feet, total depth 3,784 feet, initial production 15 bbls. in 10 minutes. Shell Petroleum Corp.'s No. 20-B Brooks, top pay 3,643 feet, total depth 3,712 feet, initial production 25 bbls. in 30 minutes; No. 21-B Brooks, top pay 3,637 feet, total depth 3,716 feet, initial production 20 bbls. in 20 minutes. E. L. Smith Oil Co.'s No. 5 Wooley, top pay 3,579 feet, total depth 3,645 feet, initial production 20 bbls. in 4 hours, pumping. Stanolind & Pure Oil Co.'s No. 54 Siler, top pay 3,592 feet, total depth 3,608 feet, initial production 5 bbls. per hour, through ⅛-inch choke.

Smith County

Colonial Production Co.'s No. 9 Cook, top pay 3,718 feet, total depth 3,721 feet, initial production 100 bbls. per hour. Iowa-Payne Oil Co.'s No. 5 Wilson, top pay 3,755 feet, total depth 3,758 feet, initial production 75 bbls. per hour. Life's No. 1 Green, top pay 3,824 feet, total depth 3,825 feet, initial production 65 bbls. in 30 minutes. Magnolia Petroleum Co.'s No. 3 Tyiska, top pay 3,829 feet, total depth 3,832 feet, initial production 11 bbls. in 10 minutes. Sinclair Prairie Oil Co.'s No. 44-A Mayfield, top pay 3,850 feet, total depth 3,852 feet, initial production 80 bbls. per hour.

Smith County Oil & Gas Co.'s No. 6 Cook, top pay 3,721 feet, total depth 3,722 feet, initial production 80 bbls. per hour. Strickland & Mullins' No. 3 Cole, top pay 3,837 feet, total depth 3,838 feet, initial production 100 bbls. per hour. The Texas Co.'s No. 14-A Jarvis, pop pay 3,608 feet, total depth 3,622 feet, initial production 66 bbls. per hour.

Upshur County

Delta Drilling Co.'s No. 2 Hamilton, top pay 3,734 feet, total depth 3,741 feet, initial production 30 bbls. per hour; No. 1 McGaughy, dry and abandoned, elevation 413 feet. Dorfman & Reynold's No. 7 Miller, top pay 3,753 feet, total depth 3,756 feet, initial production 50 bbls. per hour; No. 8 Miller, top pay 3,754 feet, total depth 3,756 feet, initial production 50 bbls. per hour. Flannigan Production Co.'s No. 6 Fee, top pay 3,647 feet, total depth 3,668 feet, initial production 50 bbls. in 30 minutes. Gulf Production Co.'s No. 10 Ray, top pay 3,592 feet, total depth 3,594 feet, initial production 7 bbls. per hour, pumping.

Humble Oil & Refining Co.'s No. 11-B O'Byrne, top pay 3,736 feet, total depth 3,744 feet, initial production 20 bbls. in 20 minutes. Magnolia Petroleum Co.'s No. 16 Adkins, top pay 3,689 feet, total depth 3,696 feet, initial production 75 bbls. per hour; No. 27 Free, top pay 3,637 feet, total depth 3,665 feet, initial production 75 bbls. per hour. Peckham Oil Co.'s No. 8 Wells, top pay 3,731 feet, total depth 3,743 feet, initial production 75 bbls. per hour. Merritt's No. 1 Slater, top pay 3,795 feet, total depth 3,816 feet, initial production 47 bbls. in 24 hours, pumping. Sun Oil Co.'s No. 10 Ramey, top pay 3,764 feet, total depth 3,770 feet, initial production 18 bbls. in 40 minutes. Wadley's No. 1 Gillespie, top pay 3,694 feet, total depth 3,698 feet, initial production 50 bbls. per hour.

MISCELLANEOUS COMPLETIONS

Anderson County—Cayuga Area

Roeser & Pendleton, Inc.'s No. 1 Ware and Wilson, total depth 4,088 feet, initial production 43 bbls. in one hour through half-inch choke.

Cherokee County

Scott and Turpin's No. 1 Whiteman and Decker, 9 miles southeast of Rusk, dry and abandoned at 5,584 feet; elevation 546 feet.

Limestone County

J. W. Kemp Co.'s No. 1 Vol De

R. W. (Bob) Patteson, zone agent of Zone No. 5, West Texas, for Gulf Production Co. at Midland

Long, dry and abandoned at 2,876 feet, 2½ miles north of Thelma; elevation 534 feet. Peyton Brothers' No. 1 Steubenrauch, northwest of Mexia Field, dry and abandoned at 5,671 feet.

Nacogdoches County

Douglas Exploration Co.'s No. 1 Hayter, 7 miles northwest of Nacogdoches, dry and abandoned at 5,061 feet; elevation 306 feet.

Navarro County

Bennett Brothers' No. 1 Stewart, 10 miles southwest of Corsicana, dry and abandoned at 1,186 feet. Codding and others' No. 1 Kent, 5 miles northeast of Chatfield, dry and abandoned at 1,340 feet.

Smith County

Sun Oil Co. and Hunt Production Co.'s No. 1 Judge, 3½ miles southeast of Tyler, elevation 486 feet, dry and abandoned at 5,172 feet, top sand 5,142 feet.

Van Zandt County

Pure Oil Co.'s No. 6 Russell, elevation 498 feet, total depth 2,970 feet, initial production 15 bbls.

West and North Texas

By L. E. BREDBERG

NEW STRIKE, REAGAN COUNTY, APPARENTLY PUMPING WELL

FORT WORTH, Tex., July 1.—The new strike 5½ miles south of the town of Big Lake in Reagan County by the Dobbs Oil Co. of Dallas is still incomplete with the operators rigging up pumping equipment while cleaning it out after 340 quarts were set off in the hole, of which 120 quarts went off prematurely, the remainder being detonated after plugging back from total depth of 2,465 feet to around 2,440 feet. The test made a couple of flows after shooting from 2,330-95 feet, but it is apparently a pumper.

The test is on the Friend ranch in Block 3, William Allen Survey. A narrow strip runs south from the town of Big Lake through this new strike, University lands flanking the block on the east and west being unleased except for some acreage about 2 miles to the east on which leases are held by Continental Oil Co. under University lands. Some of the University lands may now be sold according to the usual method, to the highest bidder, and will bring a price corresponding to the size of the discovery. Empire Gas & Fuel Co. and Indian Territory Illuminating Oil Co., jointly held the 3,300-acre block in the narrow strip surrounding the test, but Dobbs and others have half of this block now, having acquired it for drilling the test which should be completed and pumping into tanks the middle of the week. The owning company is making location for a second test in the section, 1,280 feet due south of No. 1. Empire and I.T.I.O. will no doubt offset it to the north as soon as its potential is proven.

CRANE COUNTY OUTPOST

Gulf Production Co.'s No. 1 McKnight, in Section 9, Block B-21, 4 miles north of the discovery and lone producer in the Tubbs area, western Crane County, pumped 10 bbls. of oil and 48 bbls. of water in 12 hours at a total depth of 3,713 feet and proves an extension to the Tubbs area or the opener of another pool in this part of the county. The company is also drilling an Ordovician test in Section 4, Block B-27. It is below 4,610 feet using especially heavy machinery transported from Mexico.

The same company's No. 1 Henderson, in Section 3, Block B-23, an outpost test north of the Waddell area in the northern part of Crane County, flowed 33 bbls. of oil in 48 hours while drilling at 3,440 feet in lime. This well also marks the extension on an area in which the company already has production and a large block of acreage.

Ector County

Gulf Production Co.'s No. 1 Goldsmith, wildcat discovery in Section 10, Block 44, Township 1s, T.&P. Survey, increased its flow materially when drilled 5 feet deeper from previous total depth of 4,172 feet. It made an initial flow of 854 bbls. the first 18 hours through 2-inch tubing after deepening, whereas it formerly made only 891 bbls. in 24 hours through open casing when the lime was penetrated only 2 feet from top of pay at 4,170 feet. The oil tests 36.2 degrees. Gulf Pipe Line Co. is expected to complete its 17 miles of 6-inch line from its station in the Penn Field to the south to connect with this discovery and starting pumping oil through the line this week.

Andrews County

Shell Petroleum Corp. has staked location for No. 1 Means, in Section 2, Block A-35, in the Means Pool, discovered by Humble Oil & Refining Co. last year, in which that company alone has been drilling and has production. Footage of the entering company's location is 660 feet from the south line and 1,980 feet from the west line, north offset to Humble's No. 3 J. S. Means producer in Section 4, Block C-45.

Winkler County

Production in the Keystone area northeast of Kermit in Winkler County remains doubtful. One test, Gulf Production Co.'s No. 2 Keystone Cattle Co., in Section 17, Block B12, P.S.L. Survey, 2½ miles southeast of No. 1, is shut down at 3,537 feet in lime running 8¼-inch casing. No. 1, in Section 10, Block B-3, is shut down at 3,198 feet waiting on cement to set. A test on No. 2 showed 5 feet of drilling mud, no oil or gas in 15 minutes test from 3,295-3,328 feet.

The company is drilling on six of the nine locations staked on the Keystone ranch.

Concho County Wildcat

Maverick Oil Co. of San Angelo, headed by Phillips Maverick, geologist, has given a contract to Agnew & Sons, Inc., of Ballinger, for drilling to 2,250 feet unless production or water is struck in the Ellenburger above that depth. It is to spud on or before September 1 on land owned by J. Rich and others, in the SW cor. of the NW quarter of Section 18, Certificate 16-116, I.N. Ry. Survey, about 3 miles northwest of Melvin and on a line between two gas wells drilled a few years ago by Arkansas Fuel Oil Co., the better of which has tested 4,000,000 feet of gas with 450 pounds rock pressure, the gas coming from 1,120 feet, in Section 49, H.&T.C. Survey. The new test is on a block of approximately 5,500 acres, one-third of which extends into McCulloch County.

Garza County Wildcat

M. L. Richards, who has a discovery in the making in No. 1 Sullivan, in Section 3, Block 5, K. Aycock Survey, south of Post in Garza County, has assembled a block in Block 5, G.H.&H. Survey, in which McGinley Oil Corp. of Fort Worth has acquired a half interest and will drill a test. The Sullivan test is estimated good for 25 bbls. per day after acidizing a couple of times. Total depth is 2,940 feet.

Yates Field Extension

Shell Petroleum Corp.'s No. 1-C Smith, in Section 38, Block 194, G.C.& S.F. Survey, has registered a mile extension to the regular Yates Field pay by making 64 bbls. in one hour from total depth of 1,337 feet. It was treated with 1,000 gallons of acid with a 10-bbl. oil load at 810 pounds pressure. Before acidizing the well only made 59 bbls. in 10 hours. Top of pay was logged at 1,321 feet. A north offset has been staked by Phillips in Section 39, on the Monroe lands.

McCulloch County

George Poulter of San Angelo, and others have staked location for No. 2 Wyres, in the P. W. Rocius Survey, about 12 miles north of Brady in McCulloch County, in an area where the independent operators now have two gas wells shut in. Mr. Poulter has filed application with the town of Brady for a gas franchise and will build a line to the town although it is now served by Empire Southern Gas Co. which pipes gas from the Stewartson Pool in Brown County.

World's Deepest Test

Gulf Production Co.'s No. 103 McElroy, in Section 197, Block F, on the Crane-Upton County line, in Upton County, drilled to a record depth of 12,786 feet, but plugged back to 9,977 feet to test upper showings of oil, swabbed 299 bbls. of fluid of which 242 bbls. was oil during the 24 hours ending 7 a. m., June 30. The fluid level in the hole is now 4,750 feet. This is the greatest amount of oil the hole has yielded since plugging back and perforating the casing and testing.

There were 15 locations staked in the West Texas district during the week, practically all field locations. Twenty-three tests were completed, all producers except one in Tom Green County which was dry at total depth of 534 feet. This test was drilled by J. F. Jacobs and others on the De Long lands in James Webb Survey No. 83. Half of the tests were completed in Ward County, the most active county in the district.

Ranger and Wichita Falls

Steele & Scott's Exploration's No. 2 J. R. Garvey, in Block 2, B.B.B.&C. Survey, Abstract 84, 3½ miles north and east of the Cato-Knight and Hamilton Pool in Archer County, has opened a new lime producing pool at total depth of 784 feet in Gunsight lime topped at 772 feet. It was acidized and pumped 30 bbls. in four hours on June 30, pumping 97 bbls. in 12 hours on June 29. Same operators have staked location to the north, one to the south and one to the southwest of the discovery and Texas Plains has staked location to the southwest. Others are preparing to stake locations.

Jones County Extension

Ungren and Frazier, drilling contractors of Abilene, have a discovery in the making in No. 1 Harry Dorsey and others, a wildcat test northwest of the Hawley Pool in Jones County. It is in Section 5, M. Bueno Survey. It logged the Cook sand pay from 1,975-76 feet and filled 1,500 feet with oil in 12 hours. It probably will be completed during the week, with offset locations being announced.

Lease Purchase

L. T. Burns of Wichita Falls has purchased 35 producing wells having a gross daily production of 51 bbls., in Blocks 34 and 35, A.T.N.C.L. Survey on the White ranch in Archer County, from the Phillips Petroleum Co. This production was developed in 1924-25.

F. W. Merrick, Inc., of Fort Worth has opened another shallow pool about 2 miles north of Muenster in Cooke County. The discovery, in the W. J. Richards Survey, logged oil sand from 820-29 feet and from 848-50 feet, the well being estimated good for 50 bbls. It is 3,300 feet west of a shallow pool producing from a different sand around 756-61 feet.

Gibson & Jennings, Inc., of Ardmore, Okla., have purchased 2,291 acres in Block 34, Kaufman County School Lands, on a trend between St. Jo and Nocona shallow pools in Montague County, and are expected to do some immediate exploratory work.

Charles W. Alcorn, Seitz Brothers and others are drilling an important test on the Howard lands in the F. Escobar Survey in the northeastern part of Montague County adjoining the Red River. George L. Pace is the contractor. It is to go to 2,500 feet. Barnsdall Oil Co., Phillips Petroleum Co. and Sunray Oil Corp. have taken acreage.

Benson Brothers and George McIntyre of Fort Worth have purchased a 5,000-acre block centering in the north part of the George Dooley Survey, Montague County, for a 3,500-foot test to be drilled in the N. Chism (Williams) lands and survey.

WICHITA FALLS COMPLETIONS

Archer County

O. T. Anderson Oil Co.'s No. 1 G. R. Campbell, total depth 1,301 feet, dry

and abandoned. Anderson Oil Co.'s No. 12 William Justice, top pay 1,078 feet, total depth 1,088 feet, initial production 10 bbls. per day. L. T. Burns' No. 4 Albers, top pay 1,231 feet, total depth 1,246 feet, initial production 55 bbls. per day. Shirley Clum's No. 1-B Lassiter, total depth 1,285 feet, dry and abandoned. Barney Cockburn's No. 1 W. E. Brown, total depth 1,425 feet, dry and abandoned. Continental Oil Co.'s No. 16-B Falls, top pay 1,108 feet, total depth 1,127 feet, initial production 51 bbls. per day pumping; No. 10-C Falls, top pay 1,109 feet, total depth 1,125 feet, initial production 63 bbls. per day pumping; No. 12-A W. J. Logan, top pay 1,167 feet, total depth 1,186 feet, initial production 76 bbls. per day pumping. Fain-McGaha Oil Corp.'s No. 1 S. M. Key, total depth 1,410 feet, dry and abandoned. J. C. Hamer's No. 1 S. E. Snider, total depth 956 feet, dry and abandoned.

W. B. Hamilton's No. 30 W. Pace, top pay 1,144 feet, total depth 1,156 feet, initial production 12 bbls. per day pumping; No. 31 W. Pace, top pay 1,162 feet, total depth 1,173½ feet, initial production 60 bbls. per day. Hardesty-Elliott Oil Co.'s No. 15 W. T. Richardson, top pay 1,433 feet, total depth 1,462 feet, plugged back to 1,461 feet, initial production 15 bbls. per day; No. 16 W. T. Richardson, top pay 1,437 feet, total depth 1,448 feet, initial production 70 bbls. per day. J. H. Krahenbuhl's No. 4 Belle Carrington, total depth 1,204 feet, dry and abandoned. Lanfair Brothers and others' No. 4 J. A. Bell, top pay 1,138 feet, total depth 1,140 feet, initial production 5 bbls. of oil and 20 bbls. of water per day.

Panhandle Refining Co.'s No. 6-F H. O. Prideaux, top pay 670 feet, total depth 689 feet, initial production 4 bbls. per day. Perkins and Cullum's No. 16 C. L. Abercrombie, top pay 1,003 feet, total depth 1,010 feet, initial production 8 bbls. per day.

Baylor County

Consolidated and Petroleum Producers' No. 8-D W. H. Portwood, top pay 1,362 feet, total depth 1,387 feet, initial production 250 bbls. per day; No. 9-D W. H. Portwood, top pay 1,370 feet, total depth 1,377 feet, initial production 265 bbls. per day; No. 10-D W. H. Portwood, top pay 1,365 feet, total depth 1,380 feet, initial production 278 bbls. per day.

Clay County

Metzner and Burns' No. 9 L. Thornberry, top pay 324 feet, total depth 334 feet, initial production 3 bbls. per day. I. B. Persky and others' No. 1 W. M. Myers (old well worked over), total depth 3,405 feet, top pay 3,338 feet, initial production 10 bbls. per day.

Cooke County

Bridwell Oil Co.'s No. 2 R. W. Trew, top pay 1,453 feet, total depth 1,467 feet, initial production 10 bbls. per day; No. 3 R. W. Trew, top pay 1,139 feet, total depth 1,144 feet, initial production 17 bbls. in 22 hours. Fain-McGaha Oil Corp.'s No. 3 A. A. Otto, top pay 755 feet, total depth 864 feet, plugged back to 840 feet, initial production 20 bbls. per day. McElreath and Suggett's No. 1 J. H. Gatewood, total depth 1,800 feet, dry and abandoned. Peckham and Medders' No. 1 S. D. Meadors (old well deepened; formerly produced from depth of 1,580 feet), top pay 1,638 feet, total depth 1,650 feet, initial production 10 bbls. per day. W. F. Russell and others' No. 1-A S. H. Riley, total depth 1,657 feet, dry and abandoned. Texas Co.'s No. 1 J. Walterscheid, top pay 744 feet, total depth 772 feet, initial production 42 bbls. per day.

Jack County

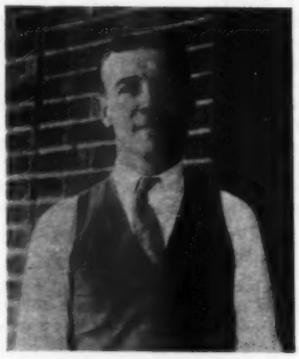
C. C. Campen and others' No. 1 W. M. Miller, total depth 410 feet, dry and abandoned. Compton Brothers and others' No. 1 C. R. Mower, total depth 600 feet, dry and abandoned. Gaines and others' No. 4 W. H. Smith, total depth 306 feet, dry and abandoned. Ralph Herring and others' No. 2 Coleman Leach, total depth 578 feet, dry and abandoned. Worth Oil Co.'s No. 9 J. W. Maxey, total depth 467 feet, dry and abandoned.

Montague County

Benton and Holmes' No. 7-B C. L. Davenport and others, top pay 1,713 feet, total depth 1,744 feet, initial production 100 bbls. per day.

Wichita County

Continental Oil Co. and Cullum's No. 1-A S. B. Burnett (old well deepened; formerly produced from depth



J. P. Kenny, district manager, Empire Southern Gas Co., Brady, Texas

of 1,816 feet), top pay 1,920 feet, total depth 1,970 feet, plugged back to 1,926 feet, initial production 8 bbls. of oil and 1 bbl. of water per day pumping. George W. Cooper's No. 31 Waggoner Brothers, top pay 1,863 feet, total depth 1,873 feet, initial production 8 bbls. per day. Golding and Cochran's No. 19-C Waggoner Brothers, total depth 1,557 feet, dry and abandoned; No. 20-C Waggoner Brothers, total depth 305 feet, dry and abandoned. Horwitz and Oldom's No. 2 Hodges, top pay 1,645 feet, total depth 1,649 feet, initial production 25 bbls. per hour swabbing and flowing. King Royalty Co.'s No. 1-L Waggoner estate, total depth 2,000 feet, dry and abandoned. Pois and Schultz' No. 1 Etheridge and McCormick, total depth 1,301 feet, dry and abandoned. Charles H. Smoot and others' No. 1 Mrs. H. Lalk, total depth 1,120 feet, dry and abandoned. J. L. Swanner's No. 2 McCormick, top pay 1,250 feet, total depth 1,260 feet, initial production 20 bbls. per day. Texas Co.'s No. 68 W. B. Honaker, top pay 1,052 feet, total depth 1,062 feet, initial production 10 bbls. per day.

Wilbarger County

McAlester Fuel Co.'s No. 10-T Waggoner estate, top pay 1,880 feet, total depth 1,889 feet, initial production 250 bbls. per day. Riner and Massie's No. 23-A Waggoner estate, top pay 1,875 feet, total depth 1,889 feet, initial production 300 bbls. per day. E. M. Stilley's No. 1-G Waggoner estate, total depth 1,203 feet, dry and abandoned.

Young County

L. T. Burns' No. 3 J. L. Castleman, total depth 1,261 feet, dry and abandoned. A. H. and S. P. Schmitt's No. 3 R. O. Andrews, top pay 902 feet, total depth 923 feet, initial production 22 bbls. per day. C. P. Sheldon and others' No. 1 Belknap Coal Co., total depth 700 feet, dry and abandoned. Sam Simmons and others' No. 3 W. H. Daley, total depth 602 feet, dry and abandoned. Ports and Rogers' No. 1 Grant estate, total depth 542 feet, dry and abandoned.

WEST TEXAS COMPLETIONS

Crane County

Gulf Production Co.'s No. 61 McElroy, total depth 2,995 feet, acidized, initial production 144 bbls. per day, pumping.

Ector County

Texas Co.'s No. 11 Connell, top pay 3,475 feet, total depth 3,650 feet, shot with 300 quarts from 3,485-3,610 feet, initial production 460 bbls.

Howard County

California Co.'s No. 3 Dodge, total depth 2,770 feet, shot with 300 quarts from 2,607-2,770 feet, initial production 123 bbls.; No. 11 Foster, top pay 2,430 feet, total depth 2,776 feet, shot with 330 quarts from 2,581-2,766 feet, and with 30 quarts from 2,460-90 feet, initial production 126 bbls., pumping. Bond Oil Corp.'s No. 3 Rhotan, top pay 2,565 feet, total depth 2,752 feet, shot with 600 quarts from 2,565-2,752 feet, initial production 954 bbls.

Pecos County

Shell Petroleum Corp.'s No. 1-C Smith, top pay 1,321 feet, total depth 1,340 feet, acidized, initial production 243 bbls. in five hours. Courvette Oil Co.'s No. 19-B Monroe, top pay 518 feet, total depth 521 feet, initial production 102 bbls., pumping.

Tom Green County

J. F. Jacobs and others' No. 2 De Long, dry and abandoned at 534 feet.

Upton County

Gulf Production Co.'s No. 15 Crier-McElroy, top pay 2,818 feet, total depth 2,943 feet, shot with 300 quarts from 2,766-2,938 feet, initial production 671 bbls. Crosby Drilling Co.'s No. 4 Lane, top pay 2,207 feet, total depth 2,332 feet, initial production 125 bbls., pumping.

Ward County

Lydecker and others' No. 3 Shell-Sloan, top pay 2,935 feet, total depth 3,035 feet, shot with 220 quarts from 2,930-3,035 feet, initial production 428 bbls., pumping. Shell Petroleum Corp.'s No. 2 Owens & Sloan, top pay 2,975 feet, total depth 3,046 feet, acidized, initial production 209 bbls., pumping. Porvine & O'Queen, Inc.'s No. 3 Carson, top pay 2,120 feet, total depth 2,185 feet, initial production 75 bbls. Atlantic Oil Producing Co.'s No. 3-B Bennett, top pay 2,347 feet, total depth 2,585 feet, shot with 100 quarts from 2,518-72 feet, initial production 1,132 bbls. Tex-Mex Petroleum Co.'s No. 5 Llano-Owens, total depth 3,032 feet, shot with 200 quarts from 2,971-3,026 feet, initial production 203 bbls., pumping.

California Co.'s No. 17 York, top pay 2,390 feet, total depth 2,527 feet, shot with 330 quarts from 2,400-2,527 feet, initial production 373 bbls.; No. 30 Durgin, top pay 2,366 feet, total depth 2,580 feet, shot with 400 quarts from 2,380-2,580 feet, initial production 189 bbls. Westbrook's No. 2 Monroe, top pay 2,345 feet, total depth 2,538 feet, shot with 285 quarts from 2,345-2,538 feet, initial production 311 bbls. Thompson's No. 12-B Johnson, top pay 2,272 feet, total depth 2,555 feet, shot with 360 quarts from 2,272-2,555 feet, initial production 412 bbls.; No. 7-B Johnson, top pay 2,310 feet, total depth 2,525 feet, shot with 420 quarts from 2,282-2,525 feet, initial production 1,368 bbls. Gulf Production Co.'s No. 57 O'Brien, top pay 2,550 feet, total depth 2,788 feet, shot with 180 quarts from 2,783 feet, total depth 2,615 feet, initial production 457 bbls. Humble Oil & Refining Co.'s No. 1 American National Life Insurance Co., total depth 2,565 feet, initial production 751 bbls.

Winkler County

Texas Pacific Coal & Oil Co.'s No. 2 Daugherty, total depth 2,057 feet, shot with 215 quarts from 2,880-2,985 feet, initial production 100 bbls. per day before shot.

PANHANDLE COMPLETIONS

Carson County

Gulf Production Co.'s No. 8 Cooper, top pay 2,995 feet, total depth 3,075 feet, initial production 441 bbls. per day, pumping. Phillips Petroleum Co.'s No. 2 Cooper, top pay 3,010 feet, total depth 3,075 feet, initial production 54 bbls. per day, pumping.

Gray County

Empire Gas & Fuel Co.'s No. 4 Shields, top pay 3,152 feet, total depth 3,253 feet, shot 480 quarts from 3,150-3,220 feet, initial production 231 bbls. per day, pumping. Kewanee Oil & Gas Co.'s No. 6 Arnold, top pay 3,182 feet, total depth 3,253 feet, shot 380 quarts from 3,150-3,253 feet, initial production 342 bbls. per day, pumping. King Royalty Co.'s No. 2 Simpson, top pay 3,195 feet, total depth 3,262 feet, shot 330 quarts from 3,195-3,257 feet, initial production 496 bbls. per day, pumping. Magnolia Petroleum Co.'s No. 11 fee, top pay 2,805 feet, total depth 2,960 feet, initial production 748 bbls. Mazda-Shell Petroleum Corp.'s No. 5 Combs-Worley, top pay 2,985 feet, total depth 3,058 feet, shot 450 quarts from 2,987-3,054 feet, initial production 304 bbls. per day, pumping. Thorp and Dawson's No. 2 Continental-Short, top pay 2,985 feet, total depth 3,058 feet, shot 450 quarts from 2,987-3,054 feet, initial production 304 bbls. per day, pumping. Stanolind Oil & Gas Co.'s No. 3 Wagoner, top pay 3,180 feet, total depth 3,294 feet, shot 400 quarts from 3,180-3,290 feet, initial production 561 bbls. per day, pumping.

Hutchinson County

Gulf Production Co.'s No. 8-B Whittenburg, top pay 2,870 feet, total depth 3,005 feet, shot 400 quarts from 2,870-3,005 feet, initial production 130 bbls. per day, pumping. Harry Stekoll Oil Producer's No. 8-B Whittenburg, top pay 3,000 feet, total depth 3,064 feet, shot 120 quarts from 3,000-3,059 feet, initial production 391 bbls. per day, pumping.

Wheeler County

Skelly Oil Co.'s No. 15 Derrick, top pay 2,424 feet, total depth 2,450 feet, initial production 218 bbls. per day, pumping.

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Among Gulf Coast Drilling Contractors

Cron & Gracey are rigging up to drill a well in the Placedo Field for the Barnsdall Oil Co.; have three rigs running in the Iowa, Louisiana, Field for the Shell Petroleum Corp.; two rigs running in the Roanoke, Louisiana, Field for the Shell Petroleum Corp.; one rig in the new South Houston Field for the Stanolind Oil & Gas Co.; one rig at Manvel for Texas Co.; one rig in East Texas for the British-American Oil Co.; one rig at White Castle, Louisiana, for the Shell Petroleum Corp.; one rig waiting decision on spacing rules near Eunice, N. Mex., where a well is to be drilled for the Repollo Oil Co.: and one rig in the Barbers Hill Field for the Sinclair Prairie Oil Co.

Anderson, Kerr & DeArman have taken over 260 acres in the Pierce Junction Field on a 50-50 basis from Hamill & Smith, and will work over the well recently completed by the latter operators. This well began flowing oil through the drill stem before screen could be set, and made 14,000 bbls. before it sanded up. Well flowed from the recently discovered deep sand around 6,500 feet. Anderson, Kerr & DeArman plan to drill several wells on the acreage.

L. W. Capps, after waiting several weeks on orders at Placedo, has skidded derrick and rig 600 feet west and is drilling for the Crown Central Petroleum Corp. Same operator, after tearing down rig recently on a well for Dick Schwab, about 4 miles from the Orange Field, which was judged dry at 6,577 feet, is rigged up again on the same hole and will carry it to 7,000 feet, at least. This well was drilled in 17½ days drilling time, including the taking of 10 cores with a standard core barrel and 45 cores with a wire line core barrel, and apparently threw the paleontologists behind. A Schlumberger test run in the hole later indicated the well was running 700 feet high, a fact which recheck of the samples by paleontologists confirmed. The well is given an excellent chance of picking up a sand between 6,900 and 7,000 feet. Capps has also set 800 feet of 10-inch surface casing in a well for H. M. Naylor near Jenning, La.

George Echols is drilling below 2,600 feet on a well for the Uscan Oil Co. in the Manvel Field, Brazoria County; is drilling below 2,000 feet on a well for the Quintana Petroleum Corp. at Nash Dome; has finished a contract hole for Sun Co. on Brooks ranch, Jim Hogg County; is washing No. 9 Laird in East Texas for Houston Oil Corp.; is rigging up to drill a well for the Shell Petroleum Corp. at Tomball; is preparing to drill for Houston Oil Co. on a new location in East Texas; and has one rig on a hole which has been abandoned as dry by Humble Oil & Refining Co. at 5,980 feet on Thompson ranch in Bee County.

Elbert Jeanes, who recently completed a well for Eljean Oil Co. in the Hankamer Field, has another location to drill in the same field. Derrick is up.

Jeff Hooper is drilling below 6,000 feet on a well in Harris County, near Cypress, for H. B. Herbert and J. J. Still. Hooper is rat-holing ahead on a well for the Trans-State Oil Co. on the Robert Castner 52 acres in the Coleto Creek Field, Victoria County

Due to A. T. (Cap) McDannald's penchant for collecting Indian relics, as well as Aztec and other antiques, the spacious headquarters of Smith & McDannald, drilling contractors, in the Esperson Building were recently outgrown. Case after case of interesting and valuable specimens, gathered throughout the southwest United States, became full and overflowing. Closets were stacked with baskets full of new specimens, contributed by friends. In desperation, and probably also to appease his yearning for a pastoral setting, Mr. McDannald purchased and remodeled for his firm the beautiful colonial home, where the company now makes headquarters offices, about 5 miles from the center of the city. The grounds include 12½ acres, and well screened from public view is a commodious warehouse and pipe rack. In addition to these customary adjuncts of a drilling contractor's business, the "office" also has attached to it several riding horses, two Jersey cows, a flock of chickens, several beehives, and Cap is anticipating the arrival of several sheep.

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Texas and Louisiana Gulf

By
F. L. SINGLETON

WHARTON COUNTY WILDCAT OPENS NEW GULF COAST FIELD

HOUSTON, Tex., July 1.—Texas Co.'s No. 2-A Pierce Estate, a wildcat test located in the central part of Wharton County, opened up a new field for the Gulf Coast when tested the first part of the week, but due to the high gas oil ratio which developed shortly after it was brought in, the screen and liner is being pulled preparatory to deepening. After it had been cored to 4,705 feet, the total depth, and 9⅝-inch casing cemented at 4,697 feet, the following screen setting was made: 1 foot 6 inches of back pressure valve, 11 feet 2 inches of 7-inch O.D. .009 gauge screen, 92 feet 7 inches of O.D. blank liner sealed in the casing with 5 feet 2 inches of packer. Two and a half inch tubing was spaced at 4,703 feet and after the well had been washed with clear water for two hours it began cleaning itself, showing gas, oil and wash water, with the pressure building up to 1,350 pounds on the tubing through a one-quarter inch choke and shut-in casing pressure 1,500 pounds. It flowed at the rate of 18 bbls. of fluid per hour and when turned into the tanks it made 12 bbls. of oil per hour through a one-quarter inch choke with tubing pressure 1,640 pounds and casing pressure 1,840 pounds. It was killed shortly afterwards and it is reported that another core will be taken and 7-inch cemented through the sand, where it will be tested through perforation made at the bottom of the casing.

The test is bottomed in the Marginulina sand topped at 4,667 feet and cored from 4,693-99 feet and from 4,699 to 4,705 feet. It is the second test to be drilled on the company's block of approximately 12,000 acres; the first test located to the southeast was abandoned in the Frio at 6,546 feet.

Although there is very little acreage to be had close in, considerable leasing is reported to have taken place. Ralph Johnston is reported to have purchased on assignment 40 acres out of the Alfred Nelson lands near the railroad right of way, and Danciger Oil & Refining Co. purchased a 41-acre lease out of the Witte lands in Lots 1, 2, 3 and 4 in the Telfener Survey. The consideration was reported to have been $150 per acre and a $25 per acre annual rental.

Montgomery County

The outcome of Charles B. Gohlson's No. 1 Aaron Parker, a wildcat test in the extreme part of Montgomery County, is still rather doubtful. After it had been shut in for 12 hours the tubing pressure built up to 640 pounds, causing the christmas tree to leak. It was opened on a one-quarter inch choke and it flowed an estimated 5 bbls. of oil per hour, but quit flowing when tested through open 2½-inch tubing and started flowing by heads, showing heavy mud, cut with oil, for one hour. After standing for 30 minutes the operators went back into the hole with a swab and found the top of the mud at 2,500 feet. Late in the week it was being swabbed and it is the general opinion that the screen and liner or tubing has collapsed as the mud is thought to be too heavy for drilling mud.

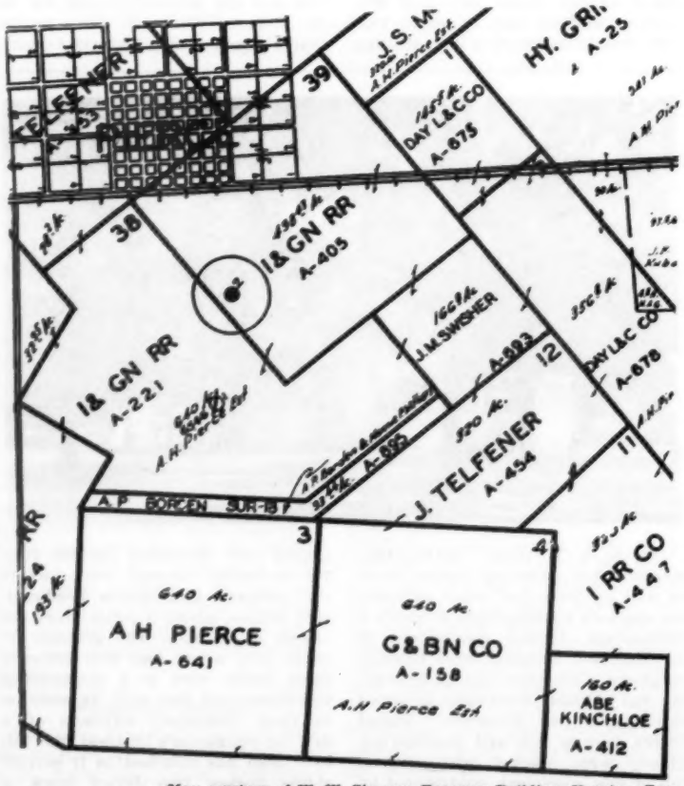
More attention was given the area by the announcement of two locations. W. O. Billnoske and others are clearing location for their No. 1 Thomas Foster, located 4,000 feet from the southeast and southwest lines of the Wm. Starrock Survey. It is located a few miles south of the Gohlson test. West of his No. 1 Parks, Charles B. Gohlson and others are clearing location for their No. 1 Delta Land & Timber Co., located in the center of a 492-acre tract and 440 feet west of the west line of the E. A. Speller tract in the J. H. Hostetter Survey.

Van Vleck

The third producer for the Van Vleck Field, Matagorda County, looms at Skelly Oil Co.'s No. 3-B Cobb, located 2,295 feet northeast of the discovery well in the M. Cummings Survey. Sand showing oil was cored from 7,046-53 feet and sandy shale showing oil was cored from 7,056-63 feet. On a 10-minute drill stem test from 7,045-7,100 feet, through a one-quarter inch choke on top and bottom, it showed 40 pounds pressure and 6 fourbles of oil and mud, 60 per cent of which was oil. It is being cored to the salt water sand, where 9⅝-inch casing will be cemented and the test drilled deeper. The field was discovered last March by the company and its two wells are producing at around 7,100 feet.

Dickinson

Two completions and one location were reported for the Dickinson Field, Galveston County. Humble Oil & Refining Co.'s No. 1 Fugger, a west offset to the company's No. 1 Jones, in the J. S. Sherman Survey, was completed at a total depth of 8,081 feet for an initial production of 283 bbls. per day on a three-eighths inch choke, with tubing pressure 225 pounds and casing pressure 900 pounds. Production was obtained after the 7-inch casing, which was set at 8,021 feet, was perforated from 8,075-80 feet. The same company's No. 1 Townes, an east offset to Pure Oil Co.'s No. 1 Shelor, a distillate producer, in the B.B.B.&C. Survey, topped the sand at 8,026 feet and was completed at a total depth of 8,076 feet, for an initial production of 22 bbls. per hour on a one-quarter inch choke, with tubing pressure 1,640 pounds and casing pressure 2,300 pounds. The company is building derrick for its No. 6-A Maco Stewart, located 6,087 feet south of the northeast corner, 1,390 feet west of the east line and 1,390 feet east of the west line and 466 feet north of the south line of the Stewart 863.11-acre "A" lease in the John Sellers Survey.



—Map courtesy of W. W. Zingery, Esperson Building, Houston, Tex.

A portion of Wharton County showing the location of Texas Co.'s No. 2 Pierce

Victoria County

In the Placedo Field, southern Victoria County, four tests are preparing to test a shallow sand which has indicated production possibilities. Approximately one-half mile southwest of the discovery well, Costa Oil Co.'s No. 1 Schovjsa, in the William Rupley Survey, swabbed salt water at 4,790 feet and is testing at a plugged back depth of 4,775 feet. It is reported that the well sprayed about 10 bbls. of oil per day through a one-eighth inch choke, with tubing pressure 370 pounds and casing pressure 900 pounds. E. L. Smith's No. 1 Henderson and Pickering, in the Brownson Survey, drilled into salt water sand at 4,806 feet and after it had been plugged back to 4,770 feet it was tested through a one-quarter inch choke and was still cleaning itself while flowing into the pits, with tubing pressure 250 pounds. After being drilled below the regular producing horizon found in the discovery well at approximately 6,000 feet, L. A. Gillespie and Superior Oil & Gas Co.'s No. 1 R. W. Brandl, an offset to the discovery well in the Wm. Rupley Survey, has been plugged back from 6,255 feet to 4,031 feet and will attempt to complete in the shallow sand. The same operators' No. 1 Janis, in the same survey, topped the shallow sand at 4,746 feet and on a drill stem test from 4,737-56 feet recovered 4 stands of oil and 5 stands of oil cut mud with no pressure. Seven-inch casing has been cemented at 4,737 feet and it is due to be tested this week.

Development of the deep sand, which is thought to be the Frio, has been very discouraging to the operators, as there has been one abandonment and two other tests have reached the discovery horizon without finding anything. Magnolia Petroleum Co.'s No. 1 Henderson and Pickering, an east offset to the discovery well in the Wm. Rupley Survey, is reaming to core ahead below 6,113 feet, after a drill stem test from 5,975-6,021 feet tested 300 feet of mud with no show of oil or gas. East Texas Refining Co.'s No. 1 Henderson and Pickering, in Lot 19, made

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a drill stem test from 5,986-6,002 feet and recovered considerable drilling mud with a slight showing of gas.

Austin County

Several large drilling blocks are being assembled, and some interesting tests are scheduled to get under way in the near future. In the West Bellville area in Austin County, D. M. Gordon has taken a large block centering around the Richard Graham and Benjamin Babbett Survey and is scheduled to begin drilling operations by the first of August. The Arkansas Fuel Oil Co., Atlantic Oil Producing Co. and several independent operators are reported to have contributed bottom hole acreage for the test, which is scheduled to be drilled to 4,500 feet. Centering around the Wm. Phillips and M. Smith Surveys in the Bernardo area of Colorado County, E. Beckley and others have assembled approximately 5,400 acres of a proposed 6,000-acre block. C. B. Bunte is reported to have acquired a 60-day option on the A. P. George lands, consisting of 8,700 acres in the Smithers Lake area in Fort Bend County, and is scheduled to drill a deep test provided he takes up the option.

Brazoria County

On the Danbury Dome, Brazoria County, Alamo Drilling Co. is moving in a rig for a test offsetting Shell Petroleum Corp.'s No. 3 Haury, which was abandoned several weeks ago. The test is being drilled on an interest basis, with Shell Petroleum Corp. owning 50 per cent interest, Turnbull and Irwin 30 per cent and the Alamo Drilling Co. 20 per cent.

In the Pierce Junction Field, Harris County, Anderson, Kerr and DeArman have taken over 200 acres on a half interest from Hamill and Smith and will develop the property themselves. It is reported that the operators will clean out and rework the first well drilled by Hamill and Smith a few months ago, which produced considerable oil with no screen in the hole.

Wildcat Tests

Two interesting wildcat tests in Waller and San Jacinto Counties were marked off the list as failures. In the northern part of Waller County, Diadem Oil Co.'s No. 1 Urban Estate was abandoned at 4,905 feet in the Cockfield, reported to have been topped at 4,645 feet. Turnbull and Irwin's No. 1 K. Moore, in the Shepherd area, San Jacinto County, was abandoned at a total depth of 4,873 feet. Location is in the T. F. De Rumayor Survey.

The western limits of the Mykawa Field, Harris County, were extended a short distance by the completion of Sterling Oil & Refining Co.'s No. 1 William in the Wm. Lovett Survey. After it had failed to flow when tested at 4,416 feet, it was cored to 4,480 feet, where it was completed for an initial production of 528 bbls. per day on a five-sixteenths inch choke, with tubing pressure 420 pounds. West Production Co. has cemented surface casing on its No. 1 C. A. Lee in the R. Wilson Survey. This makes the sixth active test in the field.

Coastal Louisiana

Shell Petroleum Corp.'s No. 1 Jarnigan, located in the Roanoke Field, Jefferson Davis Parish, Louisiana, is holding considerable attention, as it prepares to core for the oil sand at a recorded Gulf Coast depth of 10,000 feet. The hole is bottomed at 9,985 feet and the plug was being drilled after 7-inch casing had been cemented at the bottom of the hole. Before coring, however, the mud will be conditioned to a heavy compound in order to prevent a recurrence of the difficulty encountered in the original hole. The well attempted to blow several weeks ago when 2 feet of gas sand was cored from 9,999-10,001 feet, causing the drill pipe and the core barrel to stick, which resulted in the operators having to plug back, sidetrack and redrill to its present depth. Location is in Section 12-9s-4w. Humble Oil & Refining Co. was running 7-inch casing in its No. 1 Nelson Thomas, which is bottomed at 9,622 feet in hard sand and sandy shale with no show of oil or gas being reported.

In Acadia Parish, Humble Oil & Refining Co.'s No. 1 American Rice Milling Co., a wildcat test in Section 27-10s-1e, is being tested after it was plugged back due to a stuck drill stem at 9,278 feet. Several showings of oil and gas have been reported and after it had been drilled to 9,308 feet it was plugged back to 5,720 feet and the casing perforated with 20 holes from 5,684-99 feet. On a 45-minute drill stem test from 5,654-5,720 feet, the operators recovered 65 bbls. of fluid, of which 20 per cent was oil and 80 per cent salt water. Late in the week the operators were preparing to test again after the casing had been perforated with five holes at 5,660 feet. In the same parish, Continental Oil Co.'s No. 1 Ortego topped the Discorbis at 6,710 feet and is drilling in water below 6,901 feet. L. J. Jones and others are reported to have purchased considerable acreage around the town of Mexia, centering around Section 30-8s-1e.

In the Bosco Field, Acadia Parish, three tests have reached the producing horizon and are waiting on cement to set preparatory to testing. In Section 35-8s-3e, Superior Oil Producing Co.'s No. 1 E. Arceneaux is bottomed at 8,670 feet, with 7-inch casing cemented at 8,653 feet. It will extend the field 2,000 feet southeast if it makes a producer. The same company's No. 2 Domingua has the appearance of extending the field 1,000 feet south, as it has reached the sand and is bottomed at 8,610 feet, with 7-inch casing cemented at 8,590 feet. The other prospective producer is No. 6 Larcade in Section 26, which is bottomed at 8,682 feet, with 7-inch cemented at 8,667 feet. One new location was reported, being Superior Oil Producing Co.'s No. 3 Kahn, located 2,603 feet north and 300 feet west of the SE cor. of Section 33-8s-3e.

Central West

First Well on Peelee Island to Cause More Development

By G. A. WHITNEY

FINDLAY, Ohio, July 1.—An interesting report comes from Ottawa County, near Port Clinton, Ohio, the bringing in of a very good well on the Charles H. Graves farm on Peelee Island in Lake Erie. There is no production in that area. Mr. Graves is internal revenue collector of the Toledo federal district. The well is reported to show for more than 100 bbls. in 24 hours and is large enough to bring about additional testing in the county. The well, after showing its oil, was shut in waiting for storage. Indications are more pools will be found along the area from Lucas County in the vicinity of Bone, Oak Harbor, Rocky Ridge and other towns for miles along the southern shore of Lake Erie.

In Wood County, L. Hillie's No. 4 on the H. Linkey farm, Section 13, Troy Township, was dry in the Trenton lime from 1,331 feet. Nos. 1 and 3, same farm, were abandoned. In Montgomery Township, Security Oil Corp. abandoned eight wells on the D. Fralick farm, Section 3. Lester Deer abandoned Nos. 1, 2, 3, 4, 5, 6 and 7 on the Daniel Williams farm, Section 32, Montgomery Township, and Nos. 1, 2, 3 and 4 on the Edna L. Caverly farm, Section 32, same township.

In Allen County, L. J. Pease, trustee's No. 6 on the Nancy E. Leedy farm, Section 14, Bath Township, produced 30 bbls. initial. Carman Oil Co. is drilling No. 3 on the T. J. Hardsell farm, Section 13, and C. A. and F. J. Peavey's No. 3 on the Mary E. Steele farm, Section 24, same township, is drilling. In Marion Township, W. R. Mayer Brothers are drilling No. 1 on the Laura & Ivor Watkins farm, and in Jackson Township, W. B. Ladd & Co.'s No. 1 on the J. W. Clark farm, Section 6, is drilling.

In Sandusky County, George A. and John A. Willard abandoned Nos. 5, 10, 15 and 21 on the J. C. Fisher farm, Section 8, Scott Township. No. 5 on the Joseph Klopfenstine farm, and No. 2 C. J. Overmyer farm, same township.

In Hardin County, Bert Sheldon is drilling No. 2 on the Ora E. Rush farm, Section 31, Blanchard Township.

CENTRAL OHIO

In Ashland County, Hulse & Kuntz are drilling No. 1 Clarence Frankfelder farm, Section 16, Montgomery Township. In Jackson Township, Ohio Fuel Gas Co. is drilling No. 3 A. J. Stoner farm, Section 3, Jackson Township, and Hulse & Tedlow are drilling No. 1 on the William F. Landis farm, Section 11, same township.

In Wayne County, Ohio Salt Co. is drilling on its own property, Section 12, Chippewa Township, and John Harpster is drilling close to 500 feet in No. 1 on the E. F. Beichler farm, Section 6, Chippewa Township. Robison & Co. are drilling No. 1 on the Raymond A. Lake farm, Section 12, Clinton Township.

In Lorain County, William Dempsey has a rig on the Lewis F. Kroehle farm, Section 15, Elyria Township. Schneider & Wyles have a rig for No. 3 on the A. L. Miller farm, Section 6, Ridgeville Township. Minor and others are drilling No. 3 on the Mathias Myers farm, Section 32, same township.

In Richland County, J. B. Reeds' No. 1 on the Kenneth McConkie farm, Section 6, Jefferson Township, was dry at 573 feet.

In Summitt County, Pawnee Corp. is drilling close to 3,191 feet on the Henry Harris farm, Section 2, Talmadge Township.

In Coshocton County, Preston Oil Co. is drilling No. 4 on the C. D. Mossholder farm, in the one-quarter section, Newcastle Township, and the Pure Oil Co. is drilling No. 1 Thomas J. Clark farm, Lot 3, same township. In Section 20, Jefferson Township, C. C. Moore is drilling No. 2 on the J. LeRetilly farm, Section 20. In Perry Township Murphy and others' No. 3 on the John S. Rine farm, Section 17, is drilling.

INDIANA

In the Indiana Field, Charles E. Wyman's test on the Offa Christian farm, Section 12, Vernon Township, Washington County, came in a gas well.

In Pike County, Robert Watson is drilling No. 3 on the Laura Dillon farm, Section 18.

In Decatur County, Westport Natural Gas Co.'s Nos. 1 and 2 are drilling on the Zack Boicourt farm, Section 32, Swan Creek Township. C. H. Parriott is drilling No. 1 on the Charles Honey farm, Section 21, Veale Township.

A. Law is drilling on his own land, in Green Township, Lawrence County, and J. T. Imler is drilling No. 1 on the Imler farm in Pleasant Ridge Township. R. Staub is drilling No. 1 Caughlin Hunt farm, Section 35, Windsor Township. C. C. Wolfe & Co. are drilling No. 1 Edward Miller farm in Section 28, Rome Township. Frick and others are drilling No. 1 on the William Murdock farm, Section 33, same township.

ILLINOIS

In Crawford County, Illinois, John Phipps' test on the D. A. Funk farm, Section 36, Honey Creek Township, produced 10 bbls. In LaMott Township, same county, Karns and others are drilling No. 1 on the Orlander Walker farm.

In Clark County, W. B. Johnson is shut down in No. 36 on the Morrow and others farm, Section 36, Casey Township.

KENTUCKY

In the Kentucky Field, four completions were reported. Mecca Oil Co.'s No. 11 on the Smith heirs farm, in the Oak Pool, in Ohio County, had an initial of 50 bbls. Petroleum Co.'s No. 5 on the Bellamy heirs farm, same pool, produced 30 bbls. initial. C. C. Breners' No. 5 Coppage farm, same pool, produced 20 bbls. and the Cumberland Petroleum Co.'s No. 9 on the Guy Richards farm, Oak Pool, produced 15 bbls. initial.

Eastern Field Report

ONE MORE TEST IN ORISKANY IN WEST VIRGINIA PROVES DRY

By STAFF CORRESPONDENT

PITTSBURGH, Pa., July 1.—Effective June 26, the South Penn Oil Co. reduced the posted price of all Pennsylvania Grade crudes 15 cents. The new price for this crude run in the lines of the South West Pennsylvania Pipe Lines is $1.77; in the Eureka Pipe Line Co., $1.72; in the Buckeye Pipe Line Co., $1.62. As of the same date, Tide Water Pipe Co., Ltd., quoted a similar reduction which brings the price of runs in Bradford and Allegany districts to the Bradford Transit Co. down to $2.05.

There was little comment over the reduction in price as those well acquainted with production figures and the refinery demand had been apprehensive. Southwest Pennsylvania, Southeast Ohio, and West Virginia production totals have not been augmented with new production nor have those totals been returned to precurtailment levels while in the Bradford district and Allegany district production totals have increased.

The Oriskany sand proved dry in still another test in lower West Virginia. On the west slope of Middle Fork of Davis Creek in Loudin district, Kanawha County, Godfrey L. Cabot, Inc., drilled through the Oriskany sand on the Edgewood Realty Co. lease without a showing. The bottom of the Oriskany sand was placed at 4,722 feet and the hole is being drilled some deeper.

Another deep test will be drilled in Malden district, Kanawha County. About 2,500 feet east, a few degrees north of the Godfrey L. Cabot, Inc., fair Oriskany gas well on the Campbells Creek Coal Co. lease, South Penn Oil Co. has started building a rig on the Katherine C. Scott farm. The gas well on the Campbells Creek Coal Co. is putting 1,000,000 feet a day into the line and continues to have a rock pressure in excess of 1,000 pounds.

In Malden district, Kanawha County, Godfrey L. Cabot, Inc., has reached 1,560 feet on the Pius R. Levi farm. Columbian Carbon Co. is drilling at 1,248 feet on the W. D. Lewis farm, also scheduled for the Oriskany sand.

In Elk district, Kanawha County, Yoak Oil & Gas Co. is still waiting for cement to harden in the deep test on the W. T. and J. H. Goshorn farm at 4,671 feet, the cave on top of the Onondaga. Benedum & Trees are shut down cementing at 4,588 feet on the Mary C. Wingfield farm.

In Loudin district, Kanawha County, the test being drilled by Godfrey L. Cabot, Inc., on the Kanawha Land Co. has reached 1,015 feet. Columbian Carbon Co. is down 560 feet on the Kanawha City Co. lease.

In Jefferson district, Kanawha County, Benedum & Trees are fishing for tools on the Joseph Hill farm at 5,300 feet. In Malden district, Godfrey L. Cabot, Inc., is still reaming out the hole before drilling down No. 7 on the Campbells Creek Coal Co. to the Oriskany sand. This operator also has part of the material on the ground to start on the W. D. Lewis farm.

There were 14 completions and three dry holes in the lower eastern fields during the week. Ten were gas wells and four were producers with an initial production of 32 bbls. All of the new production was in Southeast Ohio.

SOUTHEAST OHIO

In Athens County, A. D. Townsend and others completed a fair test on the Joseph Bainey farm near Jerseyville in Section 29, Lodi Township. It was drilled in the Macksburg sand at a depth of 680 feet and is a gas well showing for 2,000,000 feet a day, initial.

In Belmont County, B. Whitis and others completed No. 4 on the Freiberg and Honsa lease in NW Section 26, Richland Township, in the Berea sand at a depth of 1,800 feet. It produced 10 bbls. the first day after shot.

In Jefferson County, C. S. Kelley and others drilled No. 10 on the Ella E. Baxter farm, NE Section 29, Saline Township, through the Berea sand to 885 feet and it was dry.

In Knox County there was a fair test, the size yet undetermined. The Preston Oil Co. drilled No. 1 on the Selora Phillips farm in Section 20, Butler Township, in the Clinton sand and it produced 18 bbls. the first day, natural, with 750,000 feet of gas. It will be shot in about 10 days.

In Washington County, Schneider & Schneider completed a second test on the W. E. Covey farm near Yawkeyberg in Section 27, Newport Township, in the Second Cow Run sand at 1,130 feet. It produced 3 bbls. the first day after shot. In the northeastern part of Lot 1,073, Palmer Township, Charles D. Mosher and others completed a test on the John Lightner farm in the shallow Peaker sand at 419 feet. It produced 1 bbl., natural, the first day which was not improved by shot.

SOUTHWEST PENNSYLVANIA

There were no completions in Southwest Pennsylvania during the week. Several are nearing the sands. One new test is starting. In Richhill Township, Greene County, about 2 miles west by north of Ryerson Station, B. L. Frye has made a location on the Joseph Gillett farm. In this township, Wasmuth & Callahan have reached 500 feet on the Daniel Goodwin heirs farm.

In Center Township, Greene County, Carnegie Natural Gas Co. is drilling at 820 feet on the J. H. Orndoff farm. The Pittsburgh Coal was at 695 feet. In Dunkard Township, Fred Garrison is drilling at 150 feet on the Ira Syckes farm, a test.

In Amwell Township, Washington County, Manufacturers Light & Heat Co. is spudding on the C. and S. L. Hazlette farm. This company has started drilling the second test on the R. A. Rankin farm.

In this township, Carnegie Natural Gas Co. is hauling rig for the second test on the C. W. Dunn farm and is drilling on the R. M. Carrons farm No. 2 after the gas blew down in the Salt sand at a depth of 1,815 feet. The same company has started drilling deeper No. 1 on the T. M. Shrontz farm and has reached 1,728 feet.

In the same township, Raymond Orrill and others are drilling at 2,550 feet, nearing the 30-Foot sand, in No. 5 on the G. L. Walker farm. F. K. Fawcett and others are drilling at 2,400 feet on the Tucket heirs farm.

In East Findley Township, Washington County, Natural Gas Co. of West Virginia reached the top of the Big Injun sand at 1,835 feet on the Wright Ealy farm. There was about 200,000 feet of gas at 1,937 feet which blew down and the present depth is 2,100 feet. Pitrol Fuel Co. is drilling at 2,400 feet on the Harvey F. Taylor farm.

In North Strabane Township, Washington County, F. D. Freeland and others have reached 1,721 feet on the T. F. Clark farm. In Cecil Township, F. K. Fawcett and others have a rig on the L. W. Phelan farm. In Moon Township, Allegheny County, John Beggs & Co. have started drilling on the C. H. Murdock farm.

In South Union Township, Fayette County, William Snee and others resumed drilling on the Summit Hotel Co. property and have reached 3,790 feet.

WEST VIRGINIA

Completions in West Virginia consisted of nine gas wells and two dry holes. There were no large wells. In Boone County, Owens Illinois Glass Co. completed a test on the H. C. Vandelinde farm in Washington district, at a total depth of 2,105 feet. The top of Big Lime was at 1,335 feet and extended to 1,561 feet. The Big Injun was placed at 1,561-96 feet, and the Berea at 2,042-70 feet with a showing of oil and gas at 1,960 feet. There was about 236,000 feet of gas a day at 2,042-64½ feet.

In Scott district, Boone County, this company completed a second test on the S. M. Wheeler heirs farm at a depth of 2,270½ feet. Here the Big Lime was at 1,499-1,712 feet; the Big Injun at 1,712-66 feet; the Berea at 2,208-37 feet. There was a showing of gas at 1,628-35 feet and gas at 2,210-12 feet and again at 2,237 feet. It gauged about 92,000 feet a day, natural.

In Cabell County, Boyles & Gardner completed a test on the Edward Owens farm in McComas district at 3,433 feet, the Brown shale. The Big Lime was at 1,420 feet and extended to 1,645 feet. The Big Injun was at 1,675-1,742 feet; the Berea at 2,194-2,208 feet with gas at 2,194-97 and again in the Brown shale at 3,041-3,250 feet. It has about 232,000 feet a day.

In Kanawha County, Owens Illinois Glass Co. completed No. 10 on the C. Q. Crockett farm in Malden district at a total depth of 2,160 feet, the Weir sand. It is a gas well gauging about 105,000 feet a day.

In Logan County, West Virginia Gas Co. drilled No. 38 on the Dingess Run Coal Co. lease in Logan district through the Brown shale to 3,236 feet. There was not enough gas to test and the hole is being plugged.

In Ritchie County, Beech Oil Co. completed a second test on the D. C. Newbrough farm in Grant district at a total depth of 1,927 feet as a gas well gauging 186,000 feet a day. The gas is from the Salt, Maxon, Keener and Squaw sands. In Clay district, L. N. Rinehart completed a test on the W. S. McGregor farm in the Big Injun sands at a depth of 1,887 feet. It gauges 112,000 feet a day.

In Roane County, D. W. Law and others completed a test on the Jeanette Lyons farm in Curtis district in the Salt sand at a depth of 1,616 feet. It gauges 244,000 feet a day, natural, and the gas is at 1,605-16 feet.

In Calhoun County, there were two completions. In Sherman district, Starcher & Richards completed a test on the Albert Kight 52-acre tract in the Injun sand at about 2,100 feet. It gauges about 450,000 feet a day. In Washington district, J. J. Massey completed a test on the E. P. Cottrill farm in the Salt sand at 1,308 feet. It is a gasser having 134,400 feet a day, natural.

Drilling in West Virginia

In Boone County, O. B. Cunningham and others have started drilling on the Dollie Workman farm in Washington district. Owens Illinois Glass Co. has a rig standing for No. 13 on the Little Coal Land Co. and part material on the Lethia Myers farm. This company is down 424 feet in No. 3 on the S. M. Wheeler heirs farm and 1,447 feet on the Cassingham Coal Land Co. No. 21, both in Scott district. In Sherman district, the company is drilling at 2,903 feet on the Peytonia Coal Land Co. In this district, No. 74 of Pure Oil Co. on the Federal Coal Co. is 1,041 feet.

In Cabell County, the West Virginia Gas Co. has started drilling on the George W. Savage farm in McComas district. R. H. Adkins and others

have reached 1,400 feet on the H. S. Fraley No. 3. Monickle Gas Co. is down 2,365 feet on the T. C. Bledsoe farm. In Guyandotte district, only one well is drilling, Merrits Creek Gas Co.'s test on the Charles Everetts farm at 1,500 feet.

In Calhoun County, Jackson & Garrettson have completed rig on the E. R. Fluharty farm in Center district. In Lee district, Everett Starcher and others are down 1,950 feet on the C. C. Starcher farm. In Washington district, Harper Oil & Gas Co. is drilling at 1,650 feet on the O. J. Conley farm, a test.

In Gilmer County, Park Bowser is rigging up No. 10 on the Dora E. Ramsburg farm in Center district. Grant Fowler and others are drilling at 880 feet on the Nora V. Roberts farm. Hope Construction & Refining Co. has completed a rig for No. 3,600 on the K. C. Simmons farm. In DeKalb district, A. E. Ellis and others are down 700 feet on the C. C. Pickens farm and McCall Drilling Co. 980 feet on the G. W. Wigner farm No. 2.

In Kanawha County, Columbian Carbon Co. has reached 1,840 feet on the G. and D. Copenhaver farm in Elk district. Virginian Gasoline & Oil Co. has completed a rig on the Chloe Copenhaver farm. In Cabin Creek district, Godfrey L. Cabot, Inc., has another rig standing on the A. D. Huntington lease. Pure Oil Co. is down 1,916 feet on the Lafollette, Robson & Prichard Tract C.

In Lincoln County, Empire State Gas Co. has started drilling deeper No. 2 on the B. L. Butcher farm in Sheridan district and has reached 1,700 feet. Pauley & Pridemore are drilling at 1,400 feet on the Minnie Adkins farm in Union district. In Logan County, Boone County Coal Co. is down 1,380 ft. in Logan district.

In Marion County, on Plum Run in Lincoln district, Victor C. Tennant is building a rig on the John T. Talkington farm in Lincoln district. In Paw Paw district, Owens Illinois Glass Co. is drilling at 2,500 feet on the A. T. Heck farm.

In Ritchie County, Murphy district, Clem S. Morris has a location on the Joseph Mathers farm. Samuel Summers and others have a location on the Minnie Jones heirs farm. King Knob Oil & Gas Co. is down 1,400 feet on the Emma V. Weinrick farm No. 5. Deam & Burk have reached 1,700 feet on the James E. Tyson farm. George Egan has rigged up on the B. F. Welch farm and L. P. Bickel on the P. W. Morris farm. In Union district, L. P. Bickel is down 900 feet on the E. Hendershot farm, and W. A. Bickerstaff 1,100 feet on the Larkin Prichard farm.

In Roane County, K. M. Hunt and others have spudded in a second test on the T. J. Murray 30-acre tract in Curtis district. Henderson Oil Co. is drilling at 400 feet on the C. J. Burdette farm. McIntosh & Norman are down 125 feet on their fee farm. Clyde W. Campbell has reached 350 feet on the L. D. Gandee farm. H. H. Staats and others are fishing at 700 feet on the R. R. Petty farm. H. S. Adams and others are fishing at 1,240 feet on the G. B. Norman and others lease. Harry Anderson and others have a location on the C. J. Kelly farm. In Smithfield district Spencer Natural Gas Co. is down 2,115 feet on the J. D. Young farm; Orchard Run Oil & Gas Co., 1,820 feet on the Anna Brannon farm; and Guy Boggess and others at 1,700 feet on the Anderson Boggs farm.

North Louisiana, Arkansas

EXPLORATION PLAN BY MAJOR COMPANY

By J. R. CRUMPTON

SHREVEPORT, La., July 1.—Although wildcatting continues at a brisk rate in the North Louisiana district, none of the operations developed anything of interest during the past seven days. The announcement that a major oil company would soon begin an extensive exploration campaign in North Louisiana and South Arkansas served to pep up the spirits of independent operators in these areas. The exact plans of this work are not known but it is reported that an extensive geophysical and geological survey will be made of the known structures for deeper pay as well as exploration surveys in wildcat areas.

NORTH LOUISIANA

Only one completion was reported in North Louisiana, a gasser in the Morehouse Parish area of the Monroe Field. Carbons Consolidated's No. 1 Archie, Section 22-20-4e, gauged 11,000,000 feet of gas with 328 pounds rock pressure at 2,136 feet. Five new locations were staked, all of them in proven or semiproven areas. In Tensas Parish, H. V. Schumacher and others are deepening an old wildcat which was started several years ago. Their No. 1 Curry, Section 39-11-12e, is coring in hard shale at 4,144 feet.

Two outpost tests looking for Trinity gas production in the Sligo and Rodessa Fields failed to complete due to failure of ample production on test on the former and drilling troubles on the latter. Triangle Drilling Co.'s No. 1-A State of Louisiana, Section 23-17-12, three-fourths of a mile southwest of production in the Sligo Field, Bossier Parish, was dry on drill stem test from 4,156-96 feet and tested 1,000,000 feet of gas at 4,359 feet. The crew is coring ahead at 4,377 feet and should pick up a gas-bearing sand before reaching the 4,500-foot level. United Gas Public Service Co.'s No. 1 I. L. Young, Section 21-23-16, a north flank test in the Rodessa area, Caddo Parish, drilled 7-inch plug at 5,594 feet and is fishing for core bit and cutters at 5,808 feet. About 6 miles northwest of the Bellevue shallow field in Bossier Parish, Bossier Oil & Gas Co.'s No. 3 Sherrill, Section 13-19-12, is drilling at 300 feet on a third test.

Bossier Parish Gets Play

The gas show in the first well was from the 2,100-foot level and the second test, about one-fourth of a mile west, made considerable gas from 800 to 900 feet, but salt water intrusion killed both of them. Bossier, a Mecca for wildcatters for many years, continues to get a good play along the western border in the northern part of the parish, particularly in the Plain Dealing area. W. A. Kirkland, trustee's No. 1 Jarrett & McKeller, Section 3-21-13, logged the base of chalk rock at 2,236 feet and is temporarily shut down for rig repairs at 2,268 feet. Richplain Oil Co.'s No. 1-A S. H. Bolinger, Section 22-22-13, about 3 miles south of the town of Plain Dealing is rapidly nearing the anticipated pay horizon and the next 10 days should determine whether or not this test will prove up that spot or be another of the numerous failures since the first well was drilled more than 15 years ago. The original well came in flowing about 1,500 bbls. per day, but after several days went dead, and has never been revived and numerous offsets have failed to get production. The present test is an offset to the north of the old discovery well. A shallow test about 8 miles east of Shreveport in Bossier Parish, R. L. Skidmore's No. 1 Davis, Section 12-18-13, has resumed drilling to the Blossom sand after contacting the Nacatoch at 1,015 feet.

In Caldwell Parish, Critchett & Woods' No. 1 Kraft, Section 18-11-3e, is arranging to set 6-inch casing at 1,703 feet. The well is reported to have cored 8 feet of likely looking sand with the hole bottomed at 1,716 feet. An East Carroll Parish test, Century Oil & Drilling Co.'s No. 1 Olive Dell, Section 56-21-12e, twisted off stuck drill stem at 760 feet, skidded over and is drilling on a new hole at 830 feet. The drill stem stuck in the first hole at 2,541 feet. Two hot wildcats in the Eros area of Jackson and Ouachita Parishes are making good progress. American Liberty Oil Co.'s No. 1 Lusk, Section 1-16-1w, Jackson Parish, is drilling in sandy shale at 1,810 feet, and its No. 1 Golson, Section 25-17-1e, in Ouachita Parish, northwest of the town of Eros, is drilling in shale at 1,800 feet. In Natchitoches Parish, Clyde Crichton's No. 1 Friedman estate, Section 52-7-6, is arranging to run Schlumberger test after reporting likely looking sand from 3,442-3,530 feet. The log shows chalk rock was cut from 3,530-60 feet, the total depth, Considerable interest has been aroused by a wildcat a few miles southeast of the town of Mansfield in De Soto Parish. D. J. Flesh and others' No. 1 Farmer, Section 14-12-13, is arranging to rebuild derrick, move in rig and test after abandoning the hole several weeks ago as dry at 3,035 feet. Since abandonment, the well is reported to have blown out the capping plug with a good show of oil. Sterling Oil & Refining Co.'s No. 1 Long-Bell Lumber Co., Section 19-13-9, is arranging to test at 1,175 feet after recementing 6-inch casing at 1,126 feet. The hole was plugged back to this depth from an old total depth of 3,008 feet.

ARKANSAS

One dry hole was the extent of the completions in Arkansas. Pendleton & Vaughn's No. 1 J. E. Johnson, Section 35-9-30, Sevier County, was abandoned at 1,180 feet. It was the third successive failure for shallow production in this area during the past three months. Only one new location was staked. J. C. Cubage and others' No. 1 Rhea, Section 12-17-22, Columbia County, has derrick up. Drilling activity in this district continues at a low ebb. In Lafayette County, Kamon & Neely's No. 1 Cockran, Section 26-19-25, made a Schlumberger test, and the crew is reaming to bottom at 4,100 feet. Snow Black Petroleum Co.'s No. 1 O. F. Wyman, Section 36-11-16, Ouachita County, is drilling in hard shale at 1,296 feet. An old test in this county, formerly carried as Texas Drilling Co.'s No. 1 J. T. Arnold, Section 24-15-16, which has been shut down at 2,032 feet for a long period, has been taken over by Walter Lown. The test is coring in hard sandy shale at 2,420 feet.

The El Dorado area in Union County has slowed down considerably in drilling operations since the lower red bed sands in the Rainbow Field failed to prove consistent producers, but the area is still looked upon as the best bet for deeper production in the South Arkansas district. Two miles east of the Rainbow Field, Ohio Oil Co. is nearing the Taylor sand horizon on its No. 2 Furlow, Section 12-17-14. The well tested several million feet of gas with a show of oil last week from 3,233 feet and is coring ahead for another stratum of sand deeper in the red beds. The deep Smackover Field test, Gulf Refining Co.'s No. 49 Louis Werner, Section 5-16-16, has resumed operations, coring hard lime at 6,436 feet. In the proven area of the Urbana Field, McCreslenn Oil Co.'s No. 2 J. C. Parker, Section 3-18-13, tested 9 fourbles of oil in 16 minutes on drill stem test from 3,544-83 feet and 7-inch casing has been set at 3,544 feet.

Crude Oil Production

Estimated daily average crude oil production for the week ending June 29 follows:

NORTH LOUISIANA	
Bellevue	570
Caddo light	5,000
Caddo heavy	1,990
Converse	1,150
Cotton Valley	440
De Soto and Red River	1,425
Elm Grove	410
Haynesville	3,430
Holly	150
Homer	2,675
Pleasant Hill	170
Sarepta-Cartersville	535
Urania	2,925
Zwolle	1,765
Total	22,635

SOUTH ARKANSAS	
Champagnolle	2,500
El Dorado	2,220
Lisbon	300
Miller County	1,620
Nevada	890
Smackover light	2,300
Smackover heavy	18,505
Stephens	620
Urbana	2,000
Total	30,955

Rocky Mountain Area

By T. R. INGRAM

DRILLING OPERATIONS SHOW GAIN THROUGHOUT DISTRICT

DENVER, Colo., July 1.—Drilling operations are showing a pronounced increase throughout the Rocky Mountain area. In New Mexico, three locations were made in the vicinity of Ohio Oil Co.'s No. 3 State-McDonald, south of the Eunice Pool. Shell Petroleum Corp.'s No. 1-E State, in the Monument Pool, did not show as favorably as the discovery, and made 90 bbls. first hour, open flow. It is still testing. One completion, Continental Oil Co.'s No. 30-A-2 Lockhart, for 552 bbls. daily, was reported in the Eunice Pool. Three wells in the Cooper Pool have reached the pay and are testing. One of these, Texas Co.'s No. 3 Ogg, flowed 122 bbls. an hour and proves one 40-acre unit. Two completions, both small wells, were completed in the Jal Pool, Gypsy Oil Co.'s No. 3 Arnott, and Amerada Petroleum Corp.'s No. 1 Dyer. Hobbs scored with two big wells on the edges as a result of acidization. Shell Petroleum Corp.'s No. 3 Sanger made 13,705 bbls. and Stanolind Oil & Gas Co.'s No. 26 Byers 10,611 bbls. in 24 hours. Two new operations were reported in the Roswell district in Chaves County and two in Eddy County.

There were no completions on new locations in Colorado.

Wyoming had several new operations getting under way. California Co. is starting two more wells on the Quealy Dome in Albany County and two in the new Medicine Bow Field in Carbon County, the latter two being joint with Ohio Oil Co. Ohio Oil Co. made another location on the Byron Dome in Big Horn County and Argo Oil Co. spotted No. 4 Elliott near the 2,400-bbl. producer it completed in the Lance Creek Field last week.

Montana is to have a 7,000-foot test on the Baker-Glendive anticline in the eastern part of the State. A deep test is starting in the Hardin district in Big Horn County. The Cut Bank Field in Glacier County scored with nine completions, one a flowing well, and five new locations, while another wildcat was spotted in Pondera County in search of a south extension of Cut Bank. Three new locations were reported in the Kevin-Sunburst Field.

NEW MEXICO

Monument Area—Lea County

Shell Petroleum Corp.'s No. 1-E State, C SE SE Section 35-19-36, a diagonal offset on the northwest to Amerada Petroleum Corp.'s No. 1-D State, discovery well in the new Monument Pool, and a west offset to Amerada's No. 1-F State, is a completion, and is testing. Total depth is 3,929 feet and the pay was cut at 3,912-29 feet. The elevation is 3,578 feet. After treating with 2,000 gallons of acid it flowed 90 bbls. in one hour open and 70 bbls. the next hour through 2½-inch tubing. In the third hour it made 25 bbls. through the tubing. Testing still was in progress at last reports.

Amerada Pet. Corp.'s No. 1 Andrews, W NW NW Sec. 12-20s-36.
Rig up, moving in tools.

Jeffers Oil Co.'s No. 1 Britt, C SE NW Sec. 7-20-37.
Set 15½-in. at 68 ft.

Shell Pet. Corp.'s No. 1-E State, C SE SE Sec. 35-19-36.
T.D. 3,929 ft., testing.

Twin States Oil Co.'s No. 1 Weir, C NE SE Sec. 35-19-36.
Spud. June 12; set 12½-in. at 158 ft. with 100 sacks; drlg. at 1,219 ft. in anhydrite.

Superior Oil Co.'s No. 1 State, C NE NE Sec. 2-20-36.
Drlg. 2,715 ft. in lime and anhydrite.

Texas Co.'s No. 1 Saunders, C SE SW Sec. 19-19-37.
Drlg. 3,614 ft. in lime; drill stem test at 3,375-3,572 ft.; showed 4,500,000 ft. of gas in 40 minutes.

Eunice Area

A drilling campaign between the south end of the Eunice Pool and Ohio Oil Co.'s No. 3 State-McDonald, C NE SW Section 16-22-36, which came in two weeks ago for 10,000 bbls. a day, is in prospect and three new locations were released this week. Ohio Oil Co. has rig up for No. 1 State-Maxwell, C NE NW Section 16-22-36, half a mile north of its No. 3 State-McDonald. Texas Pacific Coal & Oil Co. will offset this new well on the north with No. 6-A State, C SE SW Section 9-22-36. This well will call for about 13 progressive offsets on 40-acre units. Texas Pacific has all of Section 8, all but the NW¼ of Section 7 and all but the SE¼ of Section 9. Phillips Petroleum Co. made a location for No. 1 Woolworth-Group 2, C SW SW Section 6-22-37, 2½ miles northeast of Ohio's No. 2 State-McDonald. The major companies are well represented in the district between the Eunice and Cooper Pools where more than 2,000 acres offer favorable prospects for drilling. While several wells in the Eunice area have reached the pay and are testing, only one was reported a completion, Continental Oil Co. and California Co.'s No. 30-A-2 Lockhart, C NE NE Section 30-21-36, completed at 3,942 feet and flowed 552 bbls. daily through the casing with 250,000 feet of gas from the pay at 3,918-42 feet. The 5½-inch is at 3,802 feet and the elevation is 3,665 feet.

Amerada Pet. Corp.'s No. 1 Houston, C SE NE Sec. 7-21-36.
T.D. 3,833 ft.; testing; made 3 bbls. in 1 hr. with 6,500,000 ft. of gas with 600 lbs. pressure on casing and 75 lbs. on 2½-in. at 3,825 ft.

Atlantic Oil Prod. Co.'s No. 2-C State, C SE SE Sec. 5-21-36.
Spud. June 15 to 83 ft.; set 12½-in. at 81 ft. with 125 sacks; bldg. rotary rig.

Atlantic Oil Prod. Co.'s No. 1-G State, C SE SW Sec. 5-21-36.
Drlg. 2,465 ft. in salt; 9⅝-in. at 1,369 ft. with 300 sacks.

Continental Oil Co.'s No. 9-B-4 Meyers, C NE NW Sec. 9-21-36.
Drlg. 2,357 ft. in lime.

Continental Oil Co.'s No. 20-C-5 State, C SW SW Sec. 20-21-36.
T.D. 3,932 ft.; pay at 3,869-3,932 ft., flowed 150 bbls. in 1 hr. through csg. with 22,000,000 ft. of gas; testing.

Empire G. & F. Co.'s No. 1-C State, NW NW SW Sec. 16-21-36.
Drlg. 3,180 ft. in sand and lime.

General Crude Oil Co.'s No. 1-O State, C NW SW Sec. 32-21-36.
S.D. 70 ft.

Gypsy Oil Co.'s No. 1 Orcutt, C SE NW Sec. 5-21-36.
Rig.

Humble O. & R. Co.'s No. 4-B State, C NW NE Sec. 29-21-36.
Drlg. 2,692 ft. in anhyd. and salt; top salt at 1,578 ft.

Ohio Oil Co.'s No. 1 State-Maxwell, C NE NW Sec. 16-22-36.
Rig up.

Phillips Pet. Co.'s No. 1 Woolworth-Group 2, C SW SW Sec. 6-22-37.
Location.

Repollo Oil Co.'s No. 3 Adkins, SW SW SE Sec. 9-21-36.
Cellar and pits.

Shell Pet. Corp.'s No. 1-A State, C SE NE Sec. 12-21-35.
T.D. 4,404 ft.; P.B. to 3,926 ft.; shot and cleaned out to 3,904 ft.; will run liner.

Skelly Oil Co.'s No. 3-B State, C NE NW Sec. 16-21-36.
Drlg. 3,756 ft. in lime; 7-in. at 3,755 ft. with 400 sacks.

Texas Pacific Coal & Oil Co.'s No. 6-A State, C SE SW Sec. 9-22-36.
Location.

Cooper Area

Three wells in the Cooper Pool have reached the pay and are testing. The most interesting is Texas Co.'s No. 3 Ogg, C NE NE Section 34-24-36, which proves one 40-acre unit west and north of production on the west side pool. It was completed at 3,515 feet and flowed 122 bbls. the first hour from the pay at 3,490-3,515 feet. It is still testing.

Amerada Pet. Corp.'s No. 2 Isbell, C NE NE Sec. 15-24-36.
T.D. 3,595 ft.; flowed 37 bbls. in 4¼ hrs. through 2½-in. at 3,566 ft. on 1-in. choke; will acidize.

Amerada Pet. Corp.'s No. 3 Everett, C NE SE Sec. 34-24-36.
9⅝-in. on bottom at 2,719 ft. with 518 sacks.

Amos G. Carter et al's No. 1 Matti, C SE NW Sec. 3-24-37.
Drlg. 3,763 ft. in shale and pink lime with 2,000 ft. of oil in hole.

Atlantic Oil Prod. Co. and Kirby Pet. Co.'s No. 1 Woolworth, C SW NE Sec. 26-24-36.
Spud. June 13; 12½-in. at 221 ft. with 150 sacks; drlg. 912 ft. in red beds.

Continental Oil Co.'s No. 14-A-5 Vaughn, C NW NW Sec. 14-24-36.
Moving in.

Continental Oil Co.'s No. 14-A-4 Vaughn (formerly No. 14-4-A), C NW SW Sec. 14-24-36.
location.

Continental Oil Co.'s No. 14-A-3 Vaughn, C SW NW Sec. 14-24-36.
Drlg. 2,944 ft. in salt and anhydrite.

Continental Oil Co.'s No. 15-A-3 Vaughn, C NE SE Sec. 15-24-36.
Drlg. 1,970 ft. in anhyd. and salt; 7⅝-in. at 1,800 ft. with 400 sacks.

Continental Oil Co.'s No. 15-A-2, Vaughn, C SW SE Sec. 15-24-36.
Location.

Continental Oil Co.'s No. 23-A-2 Gates, C NW NW Sec. 23-24-36.
Rig.

Humble O. & R. Co.'s No. 2 Coats, SWL NW NE Sec. 10-24-36.
S.D. 3,394 ft.; preparing to drill deeper.

Humble O. & R. Co.'s No. 1 Mosely, C SE SE Sec. 10-24-36.
Rig up.

Humble O. & R. Co.'s No. 1 Thomas, C SW SE Sec. 23-24-36.
T.D. 3,586 ft.; plugged back to 3,470 ft.; preparing to drill 30 ft. of plug; will run 7-in.

Simms Oil Co.'s No. 1 Woolworth, C SE NE Sec. 35-24-36.
T.D. 3,476 ft.; acidized with 1,000 gals.; flowed 10 bbls. in 1 hr. through tubing on 18/64-in. choke.

Skelly Oil Co.'s No. 1 Coats, C SW SE Sec. 3-24-36.
Cellar and pits.

Stanolind O. & G. Co.'s No. 4-A Meyers, C NE NW Sec. 22-24-36.
T.D. 3,605 ft.; P.B. to 3,537 ft.; swabbed 40 bbls. in 1 hr., 90 per cent water; preparing to put on pump.

Texas Co.'s No. 3-B Ogg, C NE NE Sec. 34-24-36.
T.D. 3,515 ft.; testing.

Tide Water Oil Co.'s No. 1 Woolworth, C SW SE Sec. 26-24-36.
Cmtd. 9⅝-in. on bottom at 1,501 ft. in anhydrite with 900 sacks; W.O.C.

Jal Area

Two completions were reported in the Jal Pool. One is Gypsy Oil Co.'s No. 3 Arnott, C NW NW Section 2-25-36, an east offset to Phillips Petroleum Co.'s No. 1 Worth and a south offset to Empire Gas & Fuel Co.'s No. 4 Everett, the last named being carried as a producer in the Cooper Pool. No. 3 Arnott was completed at 3,495 feet and flowed 160 bbls. daily through the 2-inch tubing at 3,487 feet with 1,500,000 feet of gas after treating with 2,000 gallons of acid. The elevation is 3,266 feet.

The other completion is Amerada Petroleum Corp.'s No. 1 Dyer, C SW NE Section 31-25-37, at 3,335 feet. It flowed 183 bbls. in 24 hours through 2½-inch tubing on a 14/16-inch choke with 300,000 feet of gas after acidizing. It also made 12 per cent basic sediment and water. The 7-inch is at 3,273 feet and the tubing at 3,331 feet. The elevation is 3,002 feet.

Harry Leonard has taken over the operation carried as E. B. Guess' No. 1-B Justis, SW NW NW Section 20-25-37, and operations have been resumed. It was shut down at 1,060 feet last December.

Byrd-Frost, Inc.'s No. 1-A Wells, SE SE NW Sec. 12-25-36.
T.D. 3,338 ft. in lime; flowed 56 bbls. in 24 hrs. through the 2½-in. at 3,325 ft. with packer; will acidize.

Byrd-Frost, Inc.'s No. 2-A Wells, SW SW SE Sec. 12-25-36.
Location.

Harry Leonard's No. 1-B Justis, SW NW NW Sec. 20-25-37.
Set 10-in. at 1,156 ft. and pulled the 12½-in.

Gypsy Oil Co.'s No. 1-B Arnott, NW SW SW Sec. 32-25-37.
Coring at 3,328 ft. in lime; drill stem test at 3,285-3,311 ft.; showed 990 ft. of sulphur water in 1 hr.

Gypsy Oil Co.'s No. 1 Arnott, C NE NW Sec. 2-25-36.
T.D. 3,495 ft.; swabbing; made 5 bbls. of fluid in 1 hr., 33 per cent basic sediment and 2½ per cent free water.

Gypsy Oil Co.'s No. 2 Arnott, C NW NE Sec. 2-25-36.
T.D. 4,000 ft. in sand; preparing to plug back; drill stem test at 3,530-3,696 ft.; showed 15 bbls. of sulphur water per hour.

Gypsy Oil Co.'s No. 1-A Vinson Ramsey, C SE SE Sec. 12-26-36.
S.D. for water at 1,425 ft. in salt.

R. H. Henderson et al's No. 1 Langlie, C SE SE Sec. 8-26-37.
Set 5 3/16-in. at 3,197 ft. in lime and red beds.

R. H. Henderson et al's No. 1 Off, C NW NE Sec. 11-26-36.
S.D. 5 ft.

Jeffers Oil Co.'s No. 1 Carlson, C NW SE Sec. 27-25-37.
S.D. 390 ft. in lime.

Tide Water Oil Co.'s No. 1 Coats, SE SE NW Sec. 31-25-37.
T.D. 3,332 ft. in lime; flowed 63 bbls. in 12 hrs. through 2-in. on 10/64-in. choke, 148 bbls. next 24 hrs. through 2-in. on 11/64-in. choke; started showing sulphur water in 5 hrs.; increased

Can be set to blow at any desired pressure

Fulton Lever Safety Valve

SET the Fulton Lever Safety Valve at any pressure you desire, between 10 and 100 pounds, and when that pressure is reached the valve blows. Never sticks. Never fails. For low pressure distribution, it is advisable to have a safety valve between the high pressure and the low pressure regulators. For pressures between 5 and 100 pounds, the lever type here shown,—for pressures below 5 pounds, a C-F deadweight safety valve is recommended. Fulton Safety Valves, regulators, and other C-F equipment for gas control are of superior design and workmanship. They have been used with satisfaction for 40 years. Full information on request.

The Chaplin-Fulton Manufacturing Co.

28-40 Penn Avenue **Pittsburgh, Pa.**

"Hells Bells, where can we get some tubing we won't have to pull every month?"
"Try Reading Genuine Puddled Wrought Iron, Boss.
Those fellows on the next lease never have any trouble with it."
For the right pipe for the right place, write
READING IRON COMPANY
PHILADELPHIA

to 10 per cent and well then went dead; will run tubing and packer.

Hobbs Area

Through the treatment of wells with heavy doses of acid, drilling operations on the flanks of the Hobbs Pool continue to result in big producers. Two were completed this week, turning two small wells into big wells.

Shell Petroleum Corp.'s No. 3 Sanger, SW NW SW Section 27-18-38, on the eastern flank, one-third mile north of its No. 1 Sanger, was completed at 4,223 feet. When first tested it made 30 bbls. an hour through the tubing. It was treated with 2,000 gallons and then with 6,000 gallons, after which it made 13,705 bbls. of oil and 21,200,000 feet of gas first 24 hours, open flow. The pay was at 4,145-4,217 feet and the elevation is 3,640 feet. The 7-inch is at 4,075 feet and the 2½-inch at 4,219 feet.

The other completion was Stanolind Oil & Gas Co.'s No. 26 Byers, C SE NE Section 3-19-38, half mile east of the nearest producer and on the eastern side of the New Hobbs townsite. Before acidizing it made 10 bbls. in one hour from pay at 4,121-4,203 feet through 2½-inch tubing at 4,199 feet. It was treated with 4,000 gallons and retreated with 6,000 gallons and was completed for 10,611 bbls. of oil and 6,000,000 feet of gas open and 2,884 bbls. through the 2½-inch. The elevation is 3,612 feet.

Continental Oil Co.'s No. 4 Grimes, SW NE SE Sec. 28-18-38.
Rigging.

Continental Oil Co.'s No. 13-B-1 State, C SE SW Sec. 13-18-37.
T.D. 4,038 ft.; treated 1,500 gals. and waiting; pay at 4,018-38 ft.; flowed 25 bbls. in 1 hr. with 1,900,000 ft. before treating.

Samedan Oil Co.'s No. 2 Moon, 1,315 ft. S of N line and 2,310 ft. W of E line, Sec. 28-18-38.
Drlg. 3,300 ft. in anhyd.

Samedan Oil Co.'s No. 1 Byers, 666 ft. from N line and 2,310 ft. from E line, Sec. 3-19-38.
T.D. 3,770 ft. in anhydrite; plugged back to 3,228 ft. and setting whipstock.

Gypsy Oil Co.'s No. 4 Graham-State, C NW NE Sec. 24-18-37.
T.D. 4,230 ft.; tested 130 bbls. in 1 hr., 40 per cent water, through 3-in.; preparing to set packer below 4,200 ft.

National Securities Oil Co.'s No. 1 Linam, NE SE SW Sec. 33-18-37.
T.D. 4,506 ft.; P.B. to 4,238 ft.; S.D.O.

Shell Pet. Corp.'s No. 1 Nora Berry, 1,325 ft. W of E line and 1,315 ft. N of S line, Sec. 31-18-38.
Spud. June 14; drlg. 1,190 ft.

Lea County

Texas Co.'s No. 1 Cole, C NE NE Sec. 35-19-33.
T.D. 3,870 ft.; preparing to cmt. 7-in. at 3,860 ft.

Anderson & Prichard's No. 1 Fisher, C SE NE Sec. 8-20-35.
Drlg. 4,306 ft. in lime.

Argo Royalty Co.'s No. 2 Burner, C SE SE Sec. 8-20-32.
Drlg. 433 ft. in red beds.

Jeffers Oil Co.'s No. 1 Jiminez, C SW SE Sec. 12-20-33.
Drlg. 3,150 ft. in anhydrite.

Jeffers Oil Co.'s No. 1 Etz, C NE SW Sec. 12-21-32.
Drlg. 3,520 ft. in lime.

CAPROCK AREA

Vierson & Brown's No. 1 Robinson, C NW SE Sec. 14-11s-32.
Standing; rig completed.

Maljamar Area

Maljamar Oil & Gas Co.'s No. 1 Pearl Miller, C NW NW Section 23-17-32, which extends the Maljamar Pool 1 mile to the southeast, was deepened to 4,195 feet and picked up a little sulphur water, 5 bailers per day. It plugged back to 4,190 feet and shut off the water and is testing after acidizing with 2,000 gallons.

BERNALILLO COUNTY

Norins Realty Co., Inc.'s No. 1 Gallegas grant, C NW NW Sec. 19-11n-4e.
Drlg. at 500 ft.

Chaves County

Two new operations are reported in Chaves County. John Tannehill's No. 1 Campbell, NE SE NE Section 1-11s-25, 10 miles east of Roswell, began spudding June 10. It had one bailer of water per hour at 135-40 feet and 15 bailers per hour at 190-205 feet. It was drilled to 370 feet, in the red beds, and stopped to underream the 10-inch for a shutoff.

The other is the Comanche Drilling Co.'s No. 2 Sloop-Purcell, C NE NE Section 15-11s-26, in the Roswell district, a location. It was spotted half a mile south of its No. 1 Sloop-Purcell which was abandoned last February at 1,583 feet after having several good oil shows.

CHAVES COUNTY

Comanche Drlg. Co.'s No. 2 Sloop-Purcell, C NE NE Sec. 15-11s-26.
Location.

Los Chaves Dev. Co.'s No. 1 Government, C NE Sec. 8-8s-23.
Spanish Grants Oil Co.'s No. 1 fee, SE SE SW Sec. 2-8s-23.
Spud. and S.D.

John Tannehill's No. 1 Campbell, NE SE NE Sec. 1-11s-25.
T.D. 370 ft.; underreaming the 10-in.

Warman Oil Trust's No. 1 Weldon & Hoard, NW NW SE Sec. 9-14-25.
T.D. 1,660 ft.; recemtg. 5¾-in. at 1,425 ft.

CURRY COUNTY

George Schoonmaker et al's No. 1 Hart, C SE SE Sec. 13-2n-32.
S.D. 55 ft.

Eddy County

Two new operations were reported in Eddy County, Emperor Oil Co.'s No. 2 Puckett, C NW NE Section 24-17-31, in the Maljamar district, a location, and Pecos Valley Gas Co.'s No. 1 Hastie, SE NW NE Section 17-17-28, in the Artesia district, which is drilling at 392 feet in anhydrite.

Barnsdall Oil Corp.'s No. 2 Dodd, C NE SE Sec. 22-17-29.
T.D. 2,930 ft.; flowing 50 bbls. per day; preparing to run tubing.

R. D. Compton et al's No. 6 Mann, NW SW NE Sec. 4-18-27.
Drlg. 868 ft. in gypsum.

Coronado Exploration Co.'s No. 1 Anderson, C NE NW Sec. 13-20s-23.
S.D. 1,462 ft.

Dooley & Shanks' No. 1 McClay, C NE SE Sec. 33-18-30.
Drlg. 2,395 ft.

Dooley et al's No. 1 Commerce Trust, NW NE SW Sec. 8-20-27.
T.D. 700 ft.; running 6⅛-in.

Emperor Oil Co.'s No. 2 Puckett, C NW NE Sec. 24-17-31.
Location.

Flynn, Welch & Yates' No. 1 Yates, C SE NE Sec. 6-20-27.
Drlg. 1,300 ft. in lime; 6⅝-in. at 1,142 ft.

Getty Oil Co.'s No. 7 Dooley, SW SW NW Sec. 24-20-29.
T.D. 6,019 ft. in gray sand and lime; running Schlumberger tester.

R. G. Pattillo's No. 1 Thomason, SE SE NE Sec. 12-20-28.
S.D. at 500 ft. for repairs.

Pecos Valley Gas Co.'s No. 1 Hastie, SE NW NE Sec. 17-17-28.
Spud. June 11; drlg. 392 ft. in anhyd.

Rampo Oil Co.'s No. 1 State, CNL NE SE Sec. 32-17-28.
S.D. 2,232 ft. in lime.

Tignor, Etz & Keyes' No. 2 Keyes, C NE SW Sec. 10-17-28.
Spud. June 17; drlg. 55 ft. in red beds.

GUADALUPE COUNTY

Anton Chico Dev. Co., Ltd.'s No. 2 fee, NW NE SW Sec. 20-9n-17.
S.D. 900 ft.; changing over to cable tools.

McKINLEY COUNTY

Bennett & Lingfelter's No. 1 Lark Drlg. Co., NE NE NW Sec. 29-20-9w.
S.D. 560 ft. in sand; est. 20 bbls. daily at 469-72 and 554-60 ft.

A. C. Kittel's No. 1, NW NW Sec. 32-20-9w.
Material on ground.

R. W. Sanderson et al's No. 1, NE SW Sec. 21-20-9w.
Material on ground.

David K. Stacey's No. 2 Webber, SW NW Sec. 29-20-9w.
Rig on ground.

OTERO COUNTY

Flynn, Welch & Yates' No. 1 Donahue, C NW NE Sec. 28-24-15.
S.D. 1,585 ft. in lime for repairs; preparing to resume.

QUAY COUNTY

Quay County Dev. Co.'s No. 1, C SE SW Sec. 19-9n-33e.
Drlg. 450 ft.

H. F. Wilcox Oil & Gas Co.'s No. 1 Gurley, SE SW SE Sec. 32-7n-32.
S.D. 500 ft.

RIO ARRIBA COUNTY

El Vado Structures Property Co., Ltd.'s No. 1-A Tierra Amarilla grant, NE Sec. 26-3s-1e (unsurveyed).
Rigging.

ROOSEVELT COUNTY

Claudell Dev. Co.'s No. 1 Wilmes, C SW SE Sec. 21-2s-30.
T.D. 3,667 ft.; resuming; will pull 5-in. and test shows in upper horizons.

K. M. Hancock et al's No. 1, 33 ft. from W line and 1,600 ft. from N line, Sec. 21-1n-37.
Drlg. below 200 ft.

SANDOVAL COUNTY

Continental Oil Co.'s No. 1 L-Bar Cattle Co., 630 ft. N of E quarter cor. Sec. 2-13n-4w.
Rigging.

SAN JUAN COUNTY

Aztec Coop. Oil Co.'s No. 1 Aztec, SE SW Sec. 10-30n-11w.
Material on ground.
Continental Oil Co.'s No. 45, NE NW NW Sec. 12-19n-29w.
Drlg. 170 ft.
J. F. Cross et al's No. 1 Wilson, SW SW SE Sec. 17-30-11w.
S.D. 810 ft.
J. F. Cross' No. 6 Duggan, NE NE NE Sec. 20-20-11w.
S.D. 647 ft.
Cross & Poole's No. 1 Aztec, Sec. 1-30-11w.
Making water shutoff at 740 ft.
A. E. Haney's No. 1 Hare, SE SE Sec. 14-29-11w.
Drlg. 680 ft.
Kutz Canon O. & G. Co.'s No. 1 Day, SW SW SW Sec. 20-28-10.
Drlg. 4,370 ft. in sandy shale and shells and showing some increase in oil and gas. Preparing to unload 4,000 ft. of water and test.
R. C. Oswell's No. 4 Government, SW NW NE Sec. 34-30-11w.
S.D. 1,790 ft.
R. C. Oswell's No. 6 Government, SE NE Sec. 33-30-11w.
Spudded and S.D.
Reserve Oil Co.'s No. 6 Shaffer, SE NE SE Sec. 36-22n-14w.
Location.
San Juan Pet. Co.'s No. 1 Lemley, NE SE SE Sec. 32-30-11w.
S.D. 1,314 ft.
Nick Spatter's No. 1 fee, C NE SW Sec. 32-31-11w.
S.D. 1,480 ft. for pipe.
H. C. Stratton's No. 1 Hart, SW NE SE Sec. 25-30-12w.
Abd. at 1,680 ft.

SAN MIGUEL COUNTY

Cabra Springs O. & G. Co.'s No. 1 Thompson, SW NE NE Sec. 22-12n-22e.
Drlg. 4,000 ft.
Cabra Springs O. & G. Co.'s No. 2 West Pino Mesa, SW SW SW Sec. 31-12-22.
Drlg. 550 ft.
Pioneer Oil Co.'s No. 2 Montezuma, CSL SE SW Sec. 14-15n-16.
Drlg. 300 ft.
Starr-Kennedy Oil Co.'s No. 3 Adams, NE NE SE Sec. 25-17-16.
Stdg. at 5,090 ft. after completing rig to resume following fire.
Holmberg Interests' No. 1 Cantwell, NW NW NW Sec. 5-10n-9e.
S.D. 810 ft. (cor.).
Kelsey Clients Dev. Est.'s No. 2 State, C NW Sec. 22-10n-10e.
S.D. 1,450 ft.

TORRANCE COUNTY

48 Pet. Co.'s No. 1 Greenfield, C NW SW Sec. 17-9n-8e.
Drlg. 450 ft. in chocolate colored shale, 10-inch at 340 ft.

UNION COUNTY

Sierra Grande Oil Corp.'s No. 1 Rogers, C NE SW Sec. 4-29-29.
S.D. 2,280 ft. in sand with show of gas est. at 1,000,000 ft.

VALENCIA COUNTY

Pres-Sel Dev. Co.'s No. 1 Morris, NE SE Sec. 30-12n-10w.
Drlg. 600 ft.
Ringle Dev. Co.'s No. 2 Tome grant, C NE SE Sec. 20-6n-3e.
Rigged up and S.D.
Ringle Dev. Co.'s No. 1 Tome grant, C SE SE Sec. 36-6n-3e.
S.D. 400 ft.
Western Natural Resources Corp., Inc.'s No. 2 San Clemente, SE SE NW Sec. 5-6n-1e.
S.D. 6,001 ft.

COLORADO

There were no completions or new locations reported in Colorado.

ADAMS COUNTY

Riddle Pet. Co.'s No. 1 Baxter, C SW Sec. 2-3s-66w.
Standing partially rigged and drlg. wtr. well.

ARCHULETA COUNTY

William E. Hughes Est.'s No. 1 fee, SW Sec. 24-33n-2e (unsurveyed).
Rigging.
Oil City Pet. Co.'s No. 1-A Garnett, NW NE SW Sec. 25-33n-2e.
Shows of oil and gas at 970-1,100 ft. cased off with 6¾-in. at 1,106 ft.; drlg. at 1,132 ft. in black shale.
Navajo Oil Co.'s No. 1 Crowley, SW SW NE Sec. 11-32n-1e.
Resumed at 537 ft.; 5⅝-in. set at 537 ft.

BACA COUNTY

J. H. Everett et al's No. 1, 330 ft. NW cor. Sec. 24-32-48.
Spudded and S.D.; to complete rigging.

BOULDER COUNTY

Leslie R. Steele et al's No. 1 Maxwell, SW NE NW Sec. 24-1n-71.
Drlg. 1,090 ft.

FREMONT COUNTY

Waterville Oil Co.'s No. 1 State, SE SE NW Sec. 16-18s-69w.
T.D. 2,780 ft.; 150 ft. of oil in the hole. Underreaming 5-3/16-in. at 2,601 ft.

GRAND COUNTY

Colorado Oil Ref. Co.'s No. 1 Linke, NE SW NW Sec. 13-1n-77w.
S.D. 1,900 ft. for repairs.
Interstate O. & G. Co.'s No. 1 Hinman, NE SE NW Sec. 11-2n-81.
Resuming at 1,997 ft.; will C.O.; cement off caves and drill deeper.

HUERFANO COUNTY

S. W. Pressey's No. 1 Ojo, SW NE Sec. 10-26-69.
S.D. 2,550 ft.

JACKSON COUNTY

Colorado Oil Ref. Co.'s No. 1 North Park Coal, NW NW Sec. 18-9n-78.
T.D. 1,805 ft.; reaming from top to run 15⅛-in. to 500 ft.; enlarging hole to make deep test.
Continental Oil Co.'s No. 3 Hoye, NW NW NE Sec. 34-9n-78.
Drlg. 2,719 ft. in shale.

JEFFERSON COUNTY

Ruby Hill O. & G. Co.'s No. 1 Braden, SE cor. Sec. 24-4s-69.
S.D. 4,280 ft.

LAS ANIMAS COUNTY

Mountain States Oil Corp.'s No. 1 Nickola, C NE SE Sec. 10-34-62.
S.D. 1,640 ft.

LINCOLN COUNTY

Consolidated Smelting & Metals Co.'s No. 1 Hancock, NE NE SW Sec. 7-17s-52.
T.D. 1,190 ft.; C.O.

MOFFAT COUNTY

Stanolind O. & G. Co.'s No. 5-S Parkinson, NW cor. SE Sec. 22-4n-92.
Derrick up; waiting on tools.
Texas Co.'s No. 2 Iles Investment, 620 ft. S of N line and 220 ft. E of W line, Lot 4, Sec. 23-4n-92.
Drlg. 728 ft.
Mountain Fuel Supply Co.'s No. 1 Murdock, SE SE NE Sec. 24-12n-101.
Some materials on location.

MONTEZUMA COUNTY

McElmo Oil Co.'s No. 1 West, NE NW NE Sec. 31-36n-17w.
S.D. 3,131 ft. for pipe and tankage; bailer run June 19 and oil stood within 300 ft. of top; hole bridged 700 ft. off bottom.

MORGAN COUNTY

Swisher et al's No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, Sec. 3-4n-60.
Drlg. 675 ft.; 200 ft. of water at 580-590 ft.; shut off with 6¼-in. at 592 ft.

PARK COUNTY

South Park Oil Co.'s No. 1 State, SE SE SW Sec. 16-11s-75.
Drlg. 1,430 ft.; landed 10-inch at 1,-383 ft.

PROWERS COUNTY

Trojan O. & G. Co.'s No. 1 Lotus Oil, NW NE NE Sec. 15-23-46.
T.D. 5,227 ft.; cmtd. back to 4,800 ft. to stop caving; drlg. out near bottom.

WYOMING

Albany County

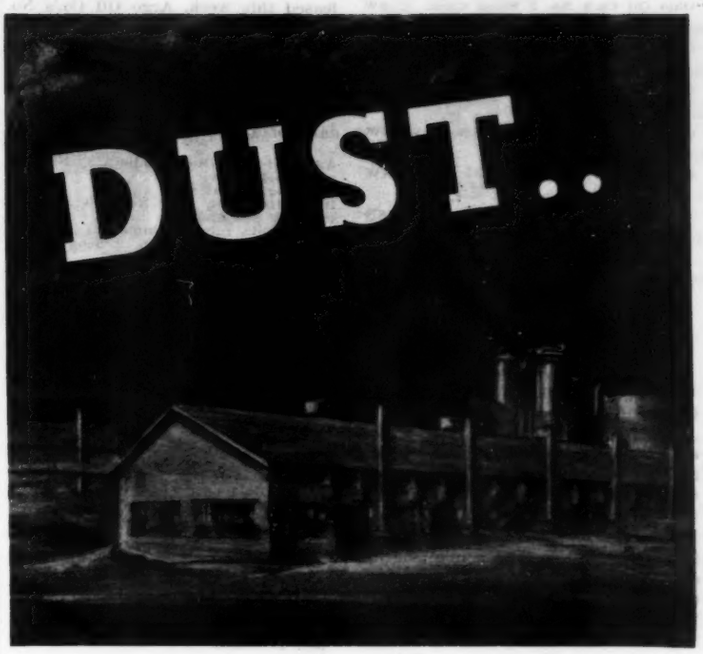
The California Co. released two locations this week on the Quealy Dome in Albany County, where it brought in the discovery well last fall in No. 1 Holst, NE SE SE Section 13-17-77. One is No. 1 Wilson, NW SW SW Section 18-17-76, an east offset to the discovery, and No. 2 Holst, SW NE SE Section 13-17-77, a diagonal offset on the northwest to the discovery. Both operations are rigging up and Manning & Terry have the contract. Both will be drilled with rotaries. No. 1 Holst pumped 60 bbls. a day from the Muddy at 3,146-75 feet last December. After tankage was filled it shut down until last spring when it was deepened to the Dakota and made 600 bbls. daily at a total depth of 3,236 feet. The discovery well did not test the Sundance, which has been proven a prolific producer in recent completions in Carbon and Niobrara Counties. It is probable one or both of the new operations will test the deeper formations.

California Co.'s No. 2 Holst, SW NE SE Sec. 13-17n-77.
Rigging up rotary.
California Co.'s No. 1 Wilson, NW SW SW Sec. 18-17n-76.
Rigging up rotary.
Ohio Oil Co.'s No. 1 Two Rivers Land & Cattle, SW SW NE Sec. 8-17-74.
Ready to spud.

Big Horn County

One new operation on the Byron Dome was reported in the Ohio Oil Co.'s No. 3 Sessions, NW cor. Section 33-56-97, which is building derrick.

J. W. Bales' No. 1 Parker, C SW SW Sec. 23-49-89.
S.D. 125 ft.
Peter Evanoff's No. 1 Griffin, Lot 60, Sec. 4-55-97.
S.D. 1,594 ft.
Peter Evanoff's No. 2 Griffin, Lot 53, Sec. 28-55-97.
Rig.
Peter Evanoff et al's No. 1 McAllister, Lot 40, Sec. 2-55-97.
Suspended location.

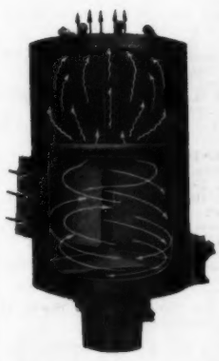


Twenty Pounds in Seventy-Two Hours

All air cleaners in a mid-continent oil company's engine house were carefully serviced at the approach of a recent dust storm. Seventy-two hours later the storm was still going strong. At night operators were forced to use flash-lights to see a few feet ahead in the engine room, although the regular lighting equipment was in operation. Those engines protected with Vortox Air Cleaners were still carrying their normal load right along in spite of the most severe dust storm of record.

An operator inspected a Vortox Air Cleaner installed on one of the 230 H. P. Clark engines. By actual weight, he found that the Vortox had extracted 20 pounds of dust from the air entering the engine during the 72 hour period. Twenty pounds of abrasive dust that would have ground away at the vital surfaces of the engine had been kept out by the Vortox Air Cleaner, and without affecting the operation of the engine.

This is perfect service—no shut-downs, no clogged filters to choke the engine, normal operation under the most extreme conditions.



The air is centrifugated, scrubbed with an oil spray and filtered through a thoroughly washed filter.

VORTOX MANUFACTURING COMPANY
Claremont, California

VORTOX
OIL-TYPE SELF-WASHING
AIR CLEANER

VORTOX DISTRIBUTORS ARE:

Portable Rig Company, 1422 Maury Street, Houston, Texas
Waukesha Motor Company Mid-Continent, 313 E. Second St., Tulsa, Okla.
Frick-Reid Supply Company, 108 No. Trenton, Tulsa, Okla.
Norvell-Wilder Supply Company, 1301 Maury St., Houston, Texas

VORTOX MANUFACTURING COMPANY
Claremont, California

Please send full information on Vortox Air Cleaners for use on .....

NAME .....

NO. ..... STREET

CITY ..... STATE .....

Ohio Oil Co.'s No. 2 Sidon Canal, C SW SW Sec. 24-56-97.
Drlg. 4,687 ft.
Ohio Oil Co.'s No. 3 Byron Union, SE NW NE Sec. 22-56-97.
Drlg. 2,515 ft.
Ohio Oil Co.'s No. 4 Byron Union, SW NE Sec. 22-56-97.
Rig up.
Ohio Oil Co.'s No. 3 Sessions, NW NW NW Sec. 23-56n-97w.
Bldg. derrick.
J. H. Shaffer's No. 1 Keachie, C SW NW Sec. 7-49-91.
Spudding.
Taylor Oil Co.'s No. 1 Hoskins, Lot 5 (SE SE), Sec. 25-56-97.
T.D. 5,275 ft.; lost 200 ft. of drill pipe while drlg. by old drill pipe at 4,950 ft.; S.D. account of high water.
Wyoming Oil & Ref. Co.'s No. 1 Evans, NE NE NW Sec. 12-49-91.
Set 12¼-in. at 85 ft. (cor.) and S.D.

Carbon County

Two new wells on the Medicine Bow structure are being started by Ohio Oil Co. and California Co. in joint operations in the vicinity of the discovery which came in a few weeks ago in the Sundance for better than 6,000 bbls. a day of 63 gravity. One is Ohio Oil Co. and California Co.'s No. 2 State, C NW NW Section 36-21-79, a little less than a mile southeast of the discovery, which is rigging up rotary, and the other is their No. 1 Union Pacific, Account 1, NE SW NW Section 25-21-79, a location, an east offset to the discovery. Rocky Mountain Drilling Co. has the contract. The discovery well is the same companies' No. 1 Kyle, NE SE NE Section 26-21-79, which had an initial production of 6,360 bbls. in 24 hours with 81,000,000 feet of gas through the bradenhead and from 5,000,000 to 10,000,000 feet with the oil at 5,393 feet, total depth, from the upper and lower Sundance.

Ohio Oil Co. and California Co.'s No. 2 State, C NW NW Sec. 36-21n-79w.
R.U. rotary.
Ohio Oil Co. and California Co.'s No. 1 Union Pacific, Acct. 1, NE SW NW Sec. 25-21n-79w.
Location.
Ohio Oil Co.'s No. 4 Diamond Cattle, SE SW NW Sec. 35-20-78.
Pulling liner to D.D. from 2,822 ft.
Earl W. Reeder, Inc.'s No. 1 Whitford, SW SE SE Sec. 24-20-84.
S.D. 4,383 ft.; (cor.).
Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Sec. 19-20-83.
S.D. 5,931 ft.; may be deepened.

CONVERSE COUNTY

Chadron-Osage Oil Co.'s No. 1 State, SW cor. Sec. 16-32-69.
Drlg. 460 ft.
Continental Oil Co.'s No. 60 State, NW SW NE Sec. 9-32-76.
Derrick.
Continental Oil Co.'s No. 9 Whiteside, 2,-640 ft. S of N line and 1,072 ft. W of E line, Sec. 7-32-76.
Drlg. at 2,316 ft.
Otto Olson et al's No. 1 Carey, Sec. 6-32-74.
S.D. 642 ft.
John Ackard's No. 1 Daniels, SW SW SE Sec. 17-32-71.
T.D. 2,600 ft.; fishing.

CROOK COUNTY

Dr. R. B. Kinter's No. 1 Rockford-Wyoming, CNL NE SE Sec. 12-52n-62w.
Drlg. at 1,170 ft. in Pahasaka (Madison) lime.

FREMONT COUNTY

Mid-American Oil Co.'s No. 3 Government, NW NE SW Sec. 24-28-92.
T.D. 150 ft.; straightening crooked hole.
Monongahela Oil Co.'s No. 1 Wisda, NE SE SE Sec. 12-28-93.
Drlg. 2,450 ft.
Tropic Oil Co.'s No. 1 Government, C SE SW Sec. 34-27-90.
Drlg. 2,701 ft.

HOT SPRINGS COUNTY

Argo Oil Co.'s No. 16 Ellen, NE SE NW Sec. 14-44-98.
Drlg. 1,550 ft.
California Exploration Co.'s No. 2 Government, NW SW NW Sec. 7-44-96.
Drlg. 1,423 ft.
Fern Oil Co.'s No. 1 Government, CSL SW SW Sec. 11-44-98.
Moving in materials.
Oscar G. Grace's No. 1 Government, SW NW NW Sec. 21-43-92.
Spudding.

LINCOLN COUNTY

Senrab Oil Co.'s No. 3 Government, N SE NW Sec. 10-26-113.
S.D. 1,011 ft.
Superior-Wyoming Oil Co.'s No. 2-B, Lot 2 (NE NW), Sec. 3-26n-113w.
Spudding.

Niobrara County

Another location in Lance Creek for a Sundance sand well was released this week, Argo Oil Co.'s No. 4 Elliott, C NE NW Section 5-35-65. This will be half a mile east of its No. 3 Elliott, C NE NE Section 5-35-65, which was completed in the Sundance last week for 2,400 bbls. daily of 47.5 gravity oil.

Argo Oil Co.'s No. 4 Elliott, C NE NW Sec. 5-35n-65w.
Moving in materials.
Black Hills Ref. Co.'s No. 1 Wright, SE SE SW Sec. 22-36-64.
Moving in rotary equipment.
Continental Oil Co.'s No. 2 Schuricht, C SE NE Sec. 6-35-65.
Drlg. 2,315 ft.
Interstate O. & R. Co.'s No. 1 Morrell, NW NE SE Sec. 9-39-61.
S.D. 3,030 ft.
Fall River Royalty & Producers Co.'s No. 3-L, CEL NE NE Sec. 2-39-61.
Drlg. 352 ft.
Ohio Oil Co.'s No. 2 Lamb, NE NW NE Sec. 5-35-65.
Drlg. 3,213 ft. in shale.
Ohio Oil Co.'s No. 4 Putnam, C SW SW Sec. 33-36-65.
Derrick up.
S. & H. Dev. Co.'s No. 1-A Olinger, SE NE NW Sec. 1-36-63.
T.D. 1,460 ft.; U.R. 5-in. at 1,416 ft.

PARK COUNTY

Geo. T. Beck's No. 1 Fee, NW SE NW Sec. 27-53-101.
Resuming at 1,181 ft.
Continental Oil Co.'s No. 3 Northern Pacific, NW SE SE Sec. 23-58-98.
Drlg. 1,981 ft.
Carland Oil Co.'s No. 2 Government, SE NE NW Sec. 14-56-98.
S.D. 2,166 ft.
V. M. Kirk's No. 1 Connaghan, C NW SW Sec. 10-50-100.
Location.
Resolute Oil Co.'s No. 1 State, C NW SW Sec. 16-57-101.
S.D. 3,603 ft.
Texas Co.'s No. 3 Ora Sonners, 660 ft. N of S line and 590 ft. W of E line, NE NW Sec. 36-51-100.
Comp. at 3,501 ft.; not tested; R.U. pumping equipment.

SHERIDAN COUNTY

Beaver Creek Oil Synd.'s No. 1 Allison, SW SE Sec. 15-55-85.
S.D. 2,660 ft.
Texas Co.'s No. 7-J, SW SW SE Sec. 34-27-113.
Location.

SUBLET COUNTY

Piney-LaBarge Oil Co.'s No. 2 Government, CEL NE NW Sec. 18-28-113.
Drlg. below 520 ft.
Texas Co.'s No. 7-J, SW SW SE Sec. 34-27-113.
Drlg. 600 ft.

SWEETWATER COUNTY

Vermillion Oil Co.'s No. 1 State, SW cor. Sec. 16-12n-99.
S.D. 4,685 ft.
Wyoming-California Pet. Co.'s No. 1 Government, SE cor. Sec. 29-16-104.
Drlg. 480 ft.

WASHAKIE COUNTY

C. L. Brome et al's No. 3 Government, SW NW NW Sec. 31-43-90.
Drlg. 1,300 ft.
Chris Oil Synd.'s No. 1 Government, C SW SW Sec. 31-43-90.
T.D. 1,830 ft.; fishing for tools.
Nystrom & Smoot's No. 2 State, SW NE NE Sec. 36-43n-90w.
Digging cellar; (first report).
Wyoming O. & R. Co.'s No. 1 Frison, NW SW NW Sec. 14-43-91.
T.D. 1,700 ft.; U.R. 8¼-in. from 1,420 ft. to bottom.

WESTON COUNTY

Conway Oil Corp.'s No. 1 Government, C SE NW Sec. 7-41-60.
T.D. 1,945 ft. in Minnelusa; fishing wtr. in the Embar.
Karl Kundy's No. 9 Government, NW cor. NE Sec. 31-46-63.
Drlg. 600 ft.
Des Moines-Osage Synd.'s No. 1 Thierry, NW NW SW Sec. 32-46-63.
Drlg. 1,100 ft.
Beaver Creek Oil Synd.'s No. 1 State, C NE NE Sec. 23-44-63.
Drlg. 150 ft.
Federal Oil Co.'s No. 6, C SE SE Sec. 15-46-64.
Spudding.
C. R. Herbison & Son's No. 3 Draper, NW NW Sec. 22-46-63.
Drlg. 50 ft.
La Licishe Oil Co.'s No. 18 fee, C SW SW Sec. 17-46-63.
Drlg. below 300 ft.
Updike Bros.' No. 5, CEL NE SW Sec. 25-46-64.
Drlg. 600 ft.

MONTANA

A 7,000-foot test on the large Baker-Glendive, or Cedar Creek anticline in eastern Montana has been announced by Minnesota Northern Power Co. following an extensive seismograph survey by John H. Wilson's Colorado Geophysical Corp. Location has not been released, but contract has been awarded to Rocky Mountain Drilling Co. This is an anticlinal fold starting in South Dakota and crossing into Montana in the eastern edge of Carter County in Township 4n, Range 62e, and extending 100 miles northwestward through Fallon, Prairie, and Dawson Counties. The first gas discovered in Montana was found on this fold in 1913 in a well drilled by Midwest Refining Co. and Consolidated Oil & Gas Co. in Township 14n, Range 55e, a flow of 1,000,000 feet a day being encountered in the Judith River formation at 840 feet. The field has a developed open flow capacity of 900,000,000 feet a day, mostly from shallow wells. The deepest test was drilled in the SE SE NE Section 21-4n-61e, by Absaroka Development Co. on the south end of the structure and encountered salt water in the Lakota and was abandoned at 4,187 feet. Altogether about 145 wells have been drilled to the Judith River at around 900 feet of which 43 are on production. Gas is marketed at Miles City, Mont., and in South and North Dakotas. The deep test will be drilled primarily for gas and a number of likely formations will be penetrated with oil production as a probability. Should gas be developed on a big scale, a pipe line to Minneapolis and St. Paul will figure in the picture.

Big Horn County

Daniels Petroleum Co. is starting a deep test in the Hardin district in its No. 1 May, C SE SE Section 13-1s-33. It began spudding June 17 in a 15½-inch hole with cable tools. A number of shallow wells produce gas at around 500 feet in the town of Hardin, but no deep tests have been drilled.

Daniels Pet. Co.'s No. 1 May, C SE SE Sec. 13-1s-33e.
Spudding.
Enterprise Oil Co. et al's No. 2 Lynde, SW SW SE Sec. 21-6s-35e.
T.D. 3,590 ft.; C.O. 50 ft. off bottom.

CARBON COUNTY

Bailey Round Butte Oil Co.'s No. 1, 1,120 ft. W of E line and 2,140 ft. N of S line, Sec. 3-6s-23.
Drlg. 900 ft.
Ohio Oil Co.'s No. 15 Montana Industrial, C NE NE Sec. 11-7s-21.
Drlg. 4,057 ft.

CASCADE COUNTY

C. Leonard Smith's No. 1, NE NE SW Sec. 14-22n-2e.
Fort Worth spudder on location.

CHOTEAU COUNTY

Mills & Decker's No. 1, NE NW Sec. 29-27n-13e.
Spudding.

FERGUS COUNTY

Button Butte O. & G. Co.'s No. 1 Woodward, SE SE SW Sec. 20-14n-24.
Drlg. 3,095 ft.
Emmons et al's No. 1, 220 ft. W of E line and 2,140 ft. N of S line, Sec. 6-26-18.
Drlg. 600 ft.
S. W. Pennock et al's No. 1 Nordheim, NW NE NE Sec. 6-21n-18e.
S.D. 480 ft.; (cor.).

CALLATIN COUNTY

Montana Gas & Pet. Corp.'s No. 1 Adams, SE SE SE Sec. 36-2n-1e.
Drlg. 1,421 ft.
Ben W. Ryan's No. 1 Tice, NE NE NE Sec. 28-1n-2e.
Drlg. 1,897 ft.

Glacier County

Nine completions and five new operations were reported in the Cut Bank Field. Completions included one flowing well and several better than the average. Santa Rita Oil & Gas Co.'s No. 1 Fisk, C SW SE Section 14-35-6w, an inside location, came in flowing 150 bbls. the first 24 hours from pay at 2,822-37 feet. Total depth is 2,843 feet.

Montana Power Gas Co.'s No. 1 Bonnett, C SE NW Section 4-32-5w, in the southern part of the field, swabbed 224 bbls. the first 24 hours from pay at 2,900-17 feet. Total depth is 2,920 feet. Oil rose 2,000 feet in the hole when drilled in. Same company's No. 1 Lookhoff, C SW SE Section 28-33-5w, had 1,300 feet of oil in the hole from pay at 3,015-53 feet and swabbed 100 bbls. in 24 hours. Kate-ly-Drumheller's No. 2 Ward, C SE NE Section 10-34-6w, is estimated at 30 bbls. settled from pay at 2,895-2,930 feet. Oil rose 1,000 feet. It has not been tested. Kately-Kaup's No. 1 Thronson, SW NW SW Section 25-35-6w, had 1,800 feet of oil in pay at 2,763-87 feet with 2,000,000 feet of gas and looks like a good well, but has not yet been tested. Nadeau Brothers' No. 2 Coover, C NE NE Section 17-33-5w, in proven territory, swabbed 198 bbls. the first 24 hours from the upper sand at 2,837-47 feet and the lower sand at 2,860-2,913 feet.

Santa Rita Oil & Gas Co.'s No. 1 Ritchie, C NW SW Section 5-33-5w, east of the town of Cut Bank and a north offset to the company's No. 2 Ritchie, a dry hole, proved a surprise and swabbed 230 bbls. the first 24 hours from pay at 2,775-95 feet. Texas Co.'s No. 1 Hagerty, C SE NE Section 9-34-6w, had 700 feet of oil at 2,963-93 feet and is rigging up pumping unit. It is an outside well on the west side and a west offset to a producer. R. C. Jeffries' No. 2 Lukens, NE cor. Section 12-33-6w, in the town of Cut Bank, estimated last week at 30 bbls. proved better than expected and pumped 155 bbls. the first 24 hours.

Anderson's No. 2 Anderson, NW SE NW Sec. 26-35-6w.
Spudding 325 ft.
Askins' No. 1 Askins, Lot 24, Blk. 33, Sec. 12-33-6w.
S.D. 2,700 ft.; will start sidetracking at 2,021 ft.
C. P. Castle's No. 2 State, 600 ft. N of S line and 1,320 ft. E of W line, Sec. 36-35-6w.
Spudding 100 ft.
A. B. Cobb's No. 1 Young, C SE NE Sec. 5-32-5w.
10-in. cmtd. at 560 ft.; top Colo., 506 ft.
Consolidated Gas Co.'s No. 5 Tribal, Lot 5, Sec. 3-34-6w.
Recmtd. 8¼-in. at 2,815 ft.
Consolidated Gas Co.'s No. 8 Tribal, Lot 6, Sec. 10-34-6w.
Rigging.
Consolidated Gas Co.'s No. 1 Arnold-State, C SW NE Sec. 26-35-6w.
10-in. cmtd. at 452 ft.; top Colo., 425 ft.
Dakota-Montana Oil Co.'s No. 3 Winkler, 440 ft. S of N line and 590 ft. E of W line, Sec. 26-35-6w.
Drlg. 2,200 ft.
Gardner-Smith's No. 2 Tweedy, W NW NE Sec. 36-33-6w.
Location.
Goodstein & Smith's No. 1 Olson, C NE SE Sec. 26-34-6w.
Location.
Grant Oil Co.'s No. 1 Bakke, C NW NE Sec. 32-34-5w (formerly R. C. Jeffries).
Spudding at 275 ft.
Kately's No. 1 Thornson, SW NW SW Sec. 25-36-6w.
T.D. 2,791 ft.; 1,800 ft. of oil in hole with 2,000,000 ft. of gas.
Lawler & Hoer's No. 1 Downen, C SE SW Sec. 9-33-5w.
Rigging.
Montana Power Gas Co.'s No. 1 G. Carrigeaux, C SE NW Sec. 28-33-5w.
Drlg. 1,025 ft.
Montana Power Gas Co.'s No. 2 Heiland Unit, NE NW SE Sec. 27-36-5w.
Drlg. 1,500 ft.
Montana Power Gas Co.'s No. 2 Bonnett, S SW NW Sec. 4-32-5w.
Location.
Far Oil Co.'s No. 5 Haines, C SW SE Sec. 2-34-6w.
Drlg. 1,685 ft.
Santa Rita O. & G. Co.'s No. 1 Government, C NE SW Sec. 4-32-5w.
Drlg. 2,675 ft.
Santa Rita O. & G. Co.'s No. 1 McCabe, C NW NW Sec. 28-33-5w.
T.D. 2,380 ft.; drlg. by tools.
Santa Rita O. & G. Co.'s No. 2 McCabe, NW SE NE Sec. 21-33-5w.
Location.
Santa Rita O. & G. Co.'s No. 1 Stahl, C NW SE Sec. 20-33-5w.
Bldg. rig.
Santa Rita O. & G. Co.'s No. 1 Savage, C NW SW Sec. 9-33-5w.
Rig.
Santa Rita O. & G. Co.'s No. 5 Tribal, C SW NW Sec. 15-35-6w.
Drlg. 560 ft.
Santa Rita O. & G. Co.'s No. 1 Whitehead, C SW SE Sec. 23-35-6w.
Set 10-in. at 350 ft.
R. C. Tarrant's No. 2 Getty, NW NW SE Sec. 2-34-6w.
S.D. 2,700 ft.
R. C. Tarrant's No. 4 Britton, C SW SW Sec. 12-34-6w.
Rig on location.
R. C. Tarrant's No. 6 Haglund, Jr., C SE NW Sec. 13-34-6w.
Rig on location.
R. C. Tarrant's No. 2 Larson, C W½ W½ NE Sec. 12-34-6w.
Location.

R. C. Tarrant's No. 1 O'Brien, C SE SW Sec. 29-34-5w.
Drlg. 1,620 ft.

R. C. Tarrant's No. 2 McClellan, C NW SE Sec. 12-34-6w.
Rig on location; (formerly No. 1 fee).

R. C. Tarrant's No. 1 Ruetten-Wold, C NW NE Sec. 13-34-6w.
Drlg. 2,590 ft.

Texas Co.'s No. 1 Aarronson et al, C N½ SE Sec. 21-35-6w.
T.D. 3,042 ft.; sand at 3,025-35 ft. shot; some wtr.; S.D.

Texas Co.'s No. 1 Marie Hagerty, C SE NE Sec. 9-34-6w.
T.D. 3,004 ft.; rigging pumping unit.

Texas Co.'s No. 1 Morgan, C NE NW Sec. 33-33-5w.
Bldg. rig.

Liberty County

J. H. Hamilton and others' No. 1 Northern Farms, C NE SW Section 10-37-5e, on the Flat Coulee structure, near the Canadian boundary and 60 miles east of the Cut Bank Field, the discovery well, is listed as a completion and is pumping an average of 40 bbls. daily. It found the sand at 2,803-79 feet and it was saturated to the bottom. It is the equivalent of the Cut Bank producing horizon. The 8¼-inch was set at 2,616 feet and the 6¼-inch at 2,778 feet.

John Wilde's No. 2-A Mahoney, W SE SW Sec. 23-37-4e.
Drlg. at 1,543 ft.; S.O. in the Bow Island sand.

PETROLEUM COUNTY

Hardendorf & Keyes' No. 1 Austed, SW NW SE Sec. 22-13n-28e.
Drlg. 150 ft.

PHILLIPS COUNTY

Little Rocky Dev. Co.'s No. 1, SE SE SE Sec. 17-24-24.
S.D. to finance at 352 ft.

Pondera County

Another test in the Valier area in search of a further south extension of the Cut Bank Field has been spotted in Norden Corp., Ltd.'s No. 1 Hollam, NW cor. Section 12-28-6w, 7 miles southwest of the town of Valier and some distance to the test being started by Texas Co. Glen Ruby, formerly with Empire Gas & Fuel Co., is reported interested. Contract has been let to B. E. Adams, and rig is up.

Norden Corp., Ltd.'s No. 1 Hollam, NW NW NW Sec. 12-28n-6w.
Rig.

Texas Co.'s No. 1 Unit 5, C SW SW Sec. 3-30-5w.
Spudding at 50 ft.

ROSEBUD COUNTY

Birney O. & G. Co.'s No. 1, SW SW SW Sec. 7-6s-43e.
Drlg. below 325 ft.

Stillwater County

Continental Oil Co. has resumed operations in No. 1 Orr, SW NW SE Section 18-5s-17e, Dean-Ingersoll district. It is cleaning out to drill deeper from 2,945 feet, to which depth it was drilled last fall. It topped the Frontier at 638 feet and was in the Kootenai at 2,065 feet.

Continental Oil Co.'s No. 1 Orr, SW NW SE Sec. 18-5s-17e.
T.D. 2,945 ft.; C.O. to deepen.

A. Beardsley's No. 4 Swears, SE SE NW Sec. 9-35-2w.
Running pipe at 885 ft.

Bi-State Oil Co.'s No. 4 Haenel, SW SW Sec. 3-34-1w.
T.D. 850 ft.

E. B. Coolidge's No. 2 Gout, NW NE SE Sec. 35-36-2w.
Rigging.

E. B. Coolidge's No. 1 Shaw, SW SE NE Sec. 35-36-2w.
250 ft. of oil in Sunburst at 1,510-34 ft. after shot may go deeper.

Crumley & Son's No. 5 Seabrook, NE SE SE Sec. 24-35-3w.
Location.

P. L. Eddy's No. 5 Seabrook, NE SW SW Sec. 19-35-3w.
Location.

Fraser & Kluth's No. 1 Severance, C SE NE Sec. 29-32-2e.
S.D. 1,520 ft. for csg.

Graham Oil Co.'s No. 2 McDonald, E SE SW Sec. 19-35-2w.
Rigging up.

Imperial Oil Co.'s No. 5 Craig, C NE NE Sec. 19-35-1w.
Sidetracking at 1,125 ft.

T. P. Kyle's No. 1 Clark, SW SW SE Sec. 19-37n-1e.
Resuming at 1,010 ft.

McKnight & Stock's No. 2 State, SW NW NW Sec. 16-35-2w.
Rigging.

Monopeg Oils, Ltd.'s No. 3 Dipple, S SW NW Sec. 28-35-1w.
S.D. 1,255 ft.

Mon-Tex Pet. Co.'s No. 1 fee, SE NW Sec. 27-34-1w.
Rigging.

Nepstead-Vanderpas' No. 19 Government, SE NW Sec. 33-35-2w.
T.D. 1,495 ft.; will acidize; show of oil and wtr. at 1,467-74 ft.

C. T. Olen's No. 1 Engermoen, SW SW NW Sec. 14-35-2w.
Drlg. 830 ft.

E. O. Reickhoff's No. 2 Government, SW SW NE Sec. 2-35-3w.
Drlg. 125 ft.; (cor.).

Pfabe & Engleking's No. 8 Seabrook, SE SW SE Sec. 19-35-2w.
Small well at 1,519-29 ft.; will acidize.

C. Leonard Smith's No. 1 Eckhoff, C SE Sec. 6-33n-3e.
S.D. 575 ft. for new boiler.

C. Leonard Smith's No. 1 Federal Land Bank, C NE SE Sec. 11-33n-1e.
Spudding at 175 ft.

C. Leonard Smith's No. 1 I. Halverson, C NE SE Sec. 18-33n-2e.
Spudding at 125 ft.

C. Leonard Smith's No. 1 H. Halverson, NW NE Sec. 18-33n-2e.
Rigging up light rotary at 250 ft.

Texas Co.'s No. 1 Kenny, C NE NE Sec. 15-35-2w.
Drlg. 910 ft.

UTAH

DAGGETT COUNTY

Mountain Fuel Supply Co.'s No. 2 Murphy, NE NE Sec. 21-3n-24w.
Drlg. 6,100 ft.

UTAH COUNTY

Diamond Oil Co.'s No. 4 Government, CSL SE NW Sec. 16-8s-5e.
Drlg. at 3,735 ft.; showing considerable gas.

WASHINGTON COUNTY

Arrowhead Pet. Co.'s No. 2 Escalante, NW NW NE Sec. 19-42-15.
T.D. 4,114 ft.; P.B. to 3,250 ft.; shot and C.O.

Arrowhead Pet. Co.'s No. 1-A, SE SW NE Sec. 1-42-15.
Drlg. 1,400 ft.

Three Completions Reported in Pennsylvania-New York Gas Field

By R. C. CONINE

COUDERSPORT, Pa., July 1.—Three completions in the north central Pennsylvania and adjacent New York gas fields last week brought in one produer. This was East Penn Development Co.'s No. 1 Clarence Cooley, Lawrence Township, Tioga County, Pa., rated at 320,000 feet. However, it is reported that the company will drill below the present 3,954 feet depth for larger pay. Updegraph has cased its Theodore Cobb test at 5,052 feet in Genesee Township, Potter County. The Tully lime was found at 5,023 feet.

Other activities in the Pennsylvania fields were: East Penn Development, drilling at 1,648 feet on the Ray French farm, Clymer Township, Tioga County; J. B. Reed, still shut down on the George C. Page farm, Allegany Township, Potter County; Cowanesque Gas, drilling at 4,689 feet on the E. A. Furman farm, Allegany Township, Potter County; Hanley & Bird, drilling at 1,565 feet on the George Burd farm, same township; and Williamsport Natural Gas Co., drilling at 2,790 feet on its No. 1 Hile-Ellis-Cobb, Genesee Township.

Sylvania Natural Gas Corp. is drilling at 2,676 feet on the Merle A. Hill farm, Genesee Township, Potter County. Penn United is drilling at 4,880 feet on the Charles Morris farm, same township. Stocum et al are drilling at 2,710 feet on the L. Thompson farm, same township. Sylvania is drilling at 3,125 feet on its No. 3 Z. L. James, Allegany Township, same county. Wyoga Oil & Gas Co. is drilling at 2,215 feet on its No. 3, Tassel, Hebron Township, same county.

Godfrey L. Cabot is drilling at 100 feet on the A. G. Lyman farm, Ulysses Township, same county; and at 156 feet on the Robert R. Lewis farm, Allegany Township.

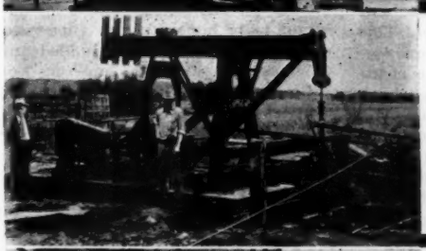
New York Operations

Godfrey L. Cabot's Comins farm test, York Township, Oneida County, proved a duster at 1,745 feet. Wittmer Oil & Gas had similar luck with its Bert Bennett farm test, Howard Township, Steuben County, completed at 3,557 feet. The Tully was found at 2,822 to 2,862 feet. Trumbull is shut down on the W. B. Lasher farm, Throop Township, Cayuga County, at 1,000 feet. Southwestern is drilling at 2,045 feet on the T. Moran farm, Alma Township, Allegany County. Godfrey L. Cabot is drilling at 2,025 feet on the B. Barringer farm, Belfast Township, same county.

Cunningham Natural Gas Co. is drilling at 2,400 feet on the Colligan farm, Alma Township, Allegany County. Belmont Quadrangle Development Co. is drilling at 180 feet on the VanCopen & Whiteman farm, Willing Township, same county. Schrack et al are drilling at 285 feet on the M. Loring farm, same township. Sanderson et al are drilling at 2,532 feet on the Leon Bennett farm, Granger Township, same county. The Tully in this test was found at 2,512 feet. Wyoming Natural Gas Co. is shut down at 1,783 feet on the C. H. Caulling farm, York Township, Livingston County. Rome Syndicate is drilling at 1,245 feet on the Meaker farm, York Township, Oneida County. Godfrey L. Cabot is shut down at 1,565 feet on No. 1 Roberts, same township and county.

LOWER UPKEEP *and* LONGER LIFE *in* OIL WELL PUMPING

Waukesha XAHU 25 hp. to 35 hp. Pumping Engine, natural gas fuel, driving Lufkin Pumping Unit, in East Texas field, owned by Straube & Straube.



Waukesha XAHU 25 hp. to 35 hp. Pumping Engine, gasoline fuel, driving Jensen Straight Lift Jack and handling five wells, 2000 ft., 2-in. tubing, ⅝-in. rods at Frankell, Texas, near Breckenridge, owned by Conway Brothers.

Waukesha CHKU 45 hp. to 60 hp. Explosion-Proof Pumping Engine, designed for outdoor, all-weather service, natural gas fuel, driving Lufkin Pumping Unit in Oklahoma City field, owned by Carter Oil Co.

Waukesha XAHU 25 hp. to 35 hp. Pumping Engine, gasoline fuel, driving Jensen Unit, pumping 4000-ft. well in Southwest Texas, owned by The Texas Company.

Waukesha Engines, for all oil field applications, are made in sizes up to 300 hp. *Write for Bulletin 830.*

WAUKESHA MOTOR COMPANY, WAUKESHA, WISCONSIN

WAUKESHA ENGINES

California Field Report

By
L. P. STOCKMAN

PLAYA DEL REY FIELD HEADED TO LOWER PRODUCTION LEVEL

LOS ANGELES, Calif., July 1.—Each succeeding week indicates that the Playa Del Rey Field of Los Angeles Basin is definitely headed for lower levels as far as production is concerned although we may anticipate additional completions from time to time that should show relatively high potentials. During the past week two fairly good wells were finished and operators are working on two more that should be tanking oil within the next few days. The Colly Oil Co.'s No. 2 Palisades, bottomed at 6,450 feet and finished with a 6⅝-inch water string landed at 6,280 feet, was good for 1,740 bbls. of relatively clean 22.5 gravity oil per day. Ed. McAdams' second producer in this field was finished a few days ago and it showed up a little better than expected. It was finished flowing 1,208 bbls. of clean 22.3 gravity oil and 1,686,000 feet of natural gas per day following completion at 6,324 feet. This well was not given a chance to chalk up a high production and consequently may show a substantially higher potential as soon as a flow test is made.

The Union Oil Co. finished an excellent well in the Dominguez Field when No. 37 Hellman was brought in flowing 1,500 bbls. of clean 30.5 gravity oil per day from 4,406 feet. This producer was finished with an 8⅝-inch water string landed and cemented at 4,295 feet and a 6⅝-inch liner carrying 177 feet of perforated. The Standard's No. 75 L.A.I. in the Inglewood Field did not have sufficient kick to result in a natural flow upon completion a few days ago and it was accordingly finished on a compressor. It showed a potential daily production of 848 bbls. of 29.3 gravity oil cutting 2 per cent. It was finished at 3,350 feet and has a 10¾-inch water string landed at 2,807 feet.

Long Beach

Virgil Jackson got an excellent new well in the Long Beach Field of Los Angeles Basin when he finished his No. 3 Signal. It was brought in flowing 208 bbls. of clean 27.3 gravity oil per day from 4,010 feet after it had been finished with a 5½-inch liner carrying 90 feet of perforated. The Medal Oil Co.'s No. 3 Signal was another good well finished in this field. It flowed 220 bbls. of very clean 27.4 gravity oil per day from 4,886 feet.

The Universal Consolidated Oil Co. has its No. 2 Nutt, in the eastern end of the Montebello Field, back on production following a series of tests which resulted in the plugging back of the hole to 5,880 feet.

Semi-Tropic

The Semi-Tropic gas field of Kern County has taken on the appearance of a real field due to the large number of new rigs and wells finished up to date. This field was only discovered a few months ago but is becoming of more importance as time goes on. The Fullerton Oil Co. added another new gas well by completing No. 72 in Section 26-27-23 flowing 10,000,000 feet per day from 2,395 feet. This well was shut in immediately subsequent to completion. The Standard's No. 1 Towle, finished last week doing 8,000,000 feet per day from 2,355 feet, built upon a production test to 38,000,000 feet, which makes it look like an excellent future producer.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	June 16		June 9			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	.....	.....	.....	.....	.....	7,305,160
Diesel and gas oil	.....	.....	.....	.....	527,098	931,159
Gasoline	116,484	16,641	233,450	33,350	3,547,745	3,021,612
Kerosene	.....	.....	.....	.....	669,351	568,197
Other finished oil	.....	.....	.....	.....	.....	15,171
Foreign exports—						
Crude oil	282,790	54,827	.....	.....	4,911,377	3,671,713
Fuel oil	446,249	63,750	191,732	27,390	5,950,171	5,985,176
Diesel and gas oil	83,996	12,714	41,505	5,929	2,080,552	1,892,735
Gasoline	174,535	24,934	221,126	45,875	2,790,496	1,912,961
Kerosene	6,768	967	167,304	23,901	722,066	972,320
Other finished oil	.....	.....	.....	.....	.....	3,529
Other unfinished oil	.....	.....	.....	.....	56,161	127,271
Coastwise-domestic—						
Crude oil	210,928	30,133	69,061	9,866	2,647,166	4,584,132
Fuel oil	307,039	43,863	266,107	38,015	4,537,442	4,373,103
Diesel and gas oil	42,293	6,042	.....	.....	471,677	385,769
Gasoline	346,602	49,515	161,132	23,026	4,370,914	4,968,886
Kerosene	7,257	1,037	.....	.....	65,090	31,472

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

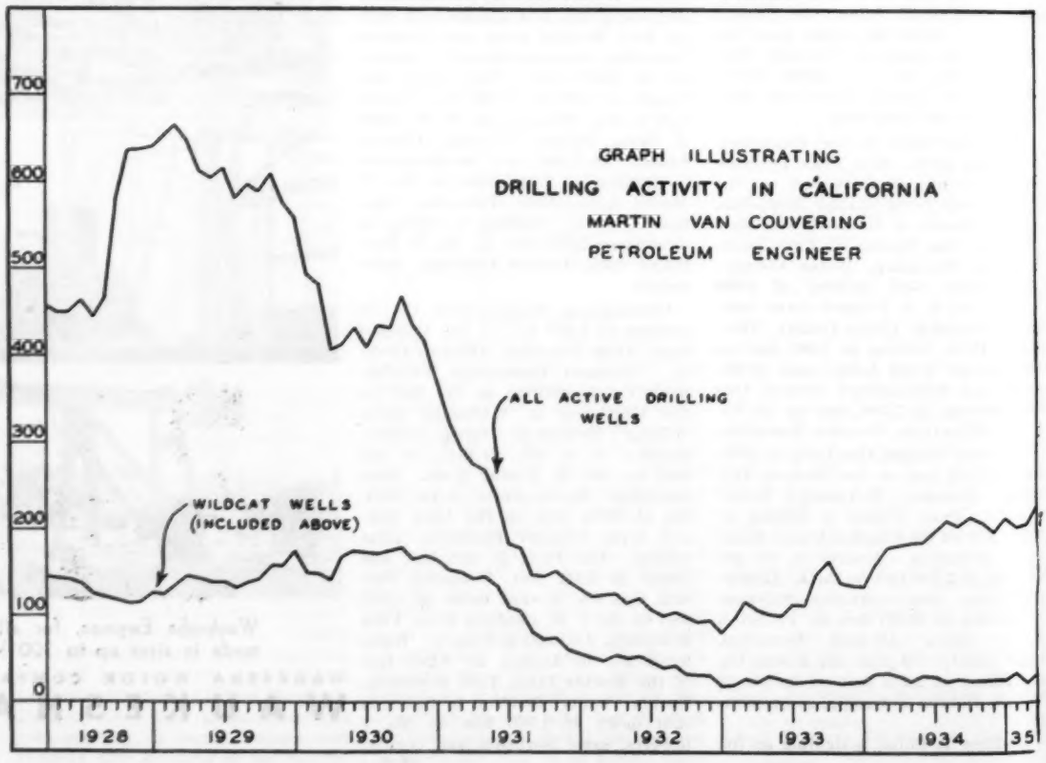
Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	.....	110,650
Diesel and gas oil	.....	.....	.....	.....	157,258	448,113
Gasoline	.....	.....	.....	.....	.....	72,625
Kerosene	.....	.....	.....	.....	149,715	276,412
Asphalt	71,862	10,267	.....	.....	280,849	.....
Lubricants	5,142	735	.....	.....	24,692	18,331
Foreign exports—						
Crude oil	70,520	10,074	.....	.....	1,426,499	302,155
Fuel oil	26,131	3,733	18,124	2,589	838,604	762,650
Diesel and gas oil	54,567	7,795	.....	.....	576,789	679,154
Gasoline	6,912	987	.....	.....	1,412,060	1,574,402
Kerosene	.....	.....	.....	.....	447,556	377,226
Lubricants	4,563	652	.....	.....	116,598	72,395
Other finished oil	.....	.....	.....	.....	.....	2,760
Other unfinished oil	.....	.....	.....	.....	.....	2,750
Coastwise-domestic—						
Fuel oil	376,044	53,721	.....	.....	2,334,755	1,730,474
Diesel and gas oil	.....	.....	.....	.....	134,657	95,371
Gasoline	140,821	20,117	208,834	29,833	2,277,582	1,740,318
Kerosene	14,762	2,100	7,593	1,085	53,139	48,112

The Milham Exploration Co. got its first commercial gas well in this field when No. 22 in Section 15-27-23 was brought in flowing 18,000,000 feet of dry gas per day from 3,122 feet. The company has already started work on a second test to be drilled in the same section. The Superior Oil Co., which has a lease on the Bradford property in Section 23-27-23, has material on ground for its first test and this well should be making hole within the next 15 days.

Mountain View

The Hancock Oil Co. finished another big well in the Mountain View Field of Kern County but it seems to be showing a little water. This might clean up, however, as its other wells on this property are relatively clean. Hancock's new well is No. 7 Miller, which was brought in flowing 8,000 bbls. of 29.5 gravity oil per day. This well was finished at 5,346 feet and is producing from both the Chanac and the Santa Margarita.

The Union Oil Co. finished another well in the Mount Poso Field and will have another potential producer tanking oil within the next few days. The company's new well was No. 24 S. & M., which was brought in pumping 1,060 bbls. of clean 16.2 gravity oil per day from 1,935 feet after the hole had been completed with a 6⅝-inch liner, including 135 feet of perforated.



Oklahoma Operations

By JAMES McINTYRE

FLUSH CLASS C POOLS WILL BE GIVEN REVISED ALLOWABLES

The State Corporation Commission will issue potential orders for Class C fields in Oklahoma this week. Wells in the Edmond Field will be declined 2 per cent per month on present potentials; wells in the Polo, Gessman and Fish-Wilcox will be declined 3 per cent on the same basis. The Lucien Pool wells will be flowed wide open for 12 hours and the gauge multiplied by 1.88 for a 24-hour gauge. Wells in the Fitts and Keokuk Falls will be given a six-hour test, with the last four-hour flow multiplied by 6 for a 24-hour figure.

A Restraining Order

Judge Vaught in Federal District Court in Oklahoma City issued a temporary restraining order against the State Corporation Commission preventing interference with production of Huddleston, Inc.'s well in the Wilcox sand zone in the Oklahoma City Field. Hearing on the question of making the order permanent will be held on July 8. While state proration officials appear not to be worrying over the result of the coming hearing, engineers point out that if Huddleston & McKeehan, the owners of the company, are successful in their suit all operators who have had underage in production would be permitted to demand the same relief which would virtually throw open the entire Wilcox zone to capacity production and such a ruling might be considered a precedent in breaking down the restrictive curb in other Oklahoma fields.

The plaintiff attacks the legality of two commission orders relating to cancellation of underproduction in the zone as of April 1, when a total of 1,117,000 bbls. of oil was cut off, and all leases in the zone were put on a per-lease basis, in lieu of per-well basis, for proration.

Big Companies in Shallow Area

Some of the larger companies operating in Oklahoma are turning to Marshall County, one of the southern border counties, and have been leasing land in that shallow sand area. Phillips Petroleum Co. has leased part of the NW and NE quarters of Section 17-6s-6e; Gypsy Oil Co., SW NW and NW NW of Section 5-8s-6e; Wirt Franklin, S half SE SE Section 30-6s-5e, and NE NE and the E half of NW NE of Section 31-6s-5e; Mid-Continent Petroleum Corp., NE quarter Section 18-6s-4e; Magnolia Petroleum Co., W half SE Section 2-5s-6e, and S half of Lot 3 and part of SW quarter of Section 1-5s-6e; Twin State Oil Co., S half SW and W half NW SW and W half NE SW and SE NE SW of Section 24-5s-5e, and N half NW and SW NW NW Section 25-5s-5e. The shallow pools in Marshall County have of late years attracted the smaller independents only, although in the early days of the pool, more than a score of years ago, there was a general play in that area.

Oklahoma Production

Estimated daily average production of Oklahoma for the week ending June 29 and for the preceding week follows:

	Barrels	
	June 29	June 22
Allen	7,750	7,975
Asher-West Asher	1,225	1,300
Burbank	8,600	8,600
South Burbank	11,250	11,250
Balance Osage	27,250	27,250
Blackwell	4,850	4,850
Bristow-Slick	9,100	9,075
Chandler	5,000	5,050
Crescent	6,350	8,300
Cromwell	4,350	4,350
Cushing-Shamrock	13,200	13,250
Duncan district	4,150	4,150
Edmond	4,075	4,800
Fish	9,350	9,350
Fitts	20,125	18,450
Gray	1,950	2,100
Graham	4,000	4,000
Healdton	9,400	9,425
Hewitt	4,800	4,800
Holdenville	1,525	1,550
Keokuk	2,125	2,100
Konawa	1,725	1,850
Lucien	11,925	11,900
Marshall-Lovell	1,050	1,050
Oklahoma City	157,225	149,125
Papoose	1,325	1,325
Polo	2,725	2,625
Saskawa and townsite	2,400	2,700
Sholem Alechem	4,025	4,050
Seminole Field:		
Bowlegs	11,075	12,500
Carr City	6,325	6,225
Earlsboro	10,075	9,925
East Earlsboro	9,725	10,000
South Earlsboro	1,325	1,175
Little River	14,925	15,125
East Little River	825	825
Maud	1,175	950
Mission	3,075	3,150
Seminole	11,250	10,900
East Seminole	1,350	1,475
Searight	4,025	3,700
Total Seminole	75,050	75,950
St. Louis-Pearson	26,125	27,275
Tatums	4,975	4,975
Tonkawa-Garber-Thomas	5,975	5,975
Wewoka	3,500	3,525
Yale-Jennings	5,100	5,100
Other pools	57,625	57,625
Total Oklahoma	521,175	517,025

Fitts Pool

Completions in the Fitts Pool in the week in review were as follows:

Carter Oil Co.'s No. 1 Lucy Brown, NW SE SE Section 25-2-6, plugged back from 4,300 to 4,280 feet, was treated to a 2,000-gallon acid treatment. Later it flowed 533 bbls. in six hours through tubing.

Phillips Petroleum Co.'s No. 9 Norris, 992 feet north and 988 feet east of SW cor. Section 25-2-6, Bromide at 4,035, sands at 4,130 and 4,207 feet, total depth 4,236 feet, flowed 715 bbls. in 30 minutes through casing, with gas at the rate of 14,000,000 feet; 465 bbls. the next two hours through tubing.

Manahan and others' No. 2-A Reynolds-Wagner, 865 feet from north and 430 feet from east lines of SE quarter Section 18-2-7, shot with 10 quarts in sand at 1,743-53 feet, pumped 117 bbls. in 24 hours.

Bishop Oil Co. abandoned the location for No. 1 Simpson, NW SW NW Section 28-2-7.

Moore and others' No. 4 Showers, SE SW NW Section 29-2-7, had Bromide at 3,980 feet; sands at 4,070 and 4,140 feet; McLish at 4,190-4,207 feet, total depth, flowed 215 bbls. the first hour and 140 bbls. the second hour through casing.

Moore and others' No. 2 Woodruff, NW NE SE Section 29-2-7, Bromide at 3,945 feet, sands at 4,050 and 4,110 feet, McLish at 4,162 feet, total depth 4,201 feet, flowed 614 bbls. the first hour and 476 bbls. the second hour through casing.

Carter Oil Co.'s No. 9 Harden, NE SE SW Section 30-2-7, Bromide at 3,885 feet, sands at 3,985 and 4,075 feet, McLish at 4,105-10 feet, total depth, flowed 218 bbls. in 18 minutes and then 689 bbls. in one hour with 421 bbls. the following hour, all through casing.

Stanolind Oil & Gas Co.'s No. 4 Harden, 990 feet from north and 890 feet from west lines of SW quarter Section 30-2-7, 8,000,000-foot gas well from Cromwell sand at 2,350 feet, total depth 2,475 feet. It had been deepened from 1,468 feet.

New work started in the Fitts Pool included Stanolind Oil & Gas Co.'s No. 2 Norris, SE SW SE Section 25-2-6, plugging back from 4,315 to 4,255 feet and drilling at 4,261 feet; Carter Oil Co.'s No. 1 G. F. Smith, NE NW SW Section 28-2-7, location.

Moore and others' No. 1 Smith B, SW SE SE Section 25-2-6, in the Fitts Pool, plugged back from 4,310 feet to 4,285 feet, flowed 120 bbls. in 24 hours on the gas lift, cutting one-fifth of 1 per cent salt water.

Moore and others' No. 6 Smith B, SE NE NE Section 36-2-6, had Bromide at 4,089 feet, sands at 4,185 feet and 4,275 feet and McLish at 4,325-30 feet total depth. It flowed 325 bbls. while coming out of the hole.

Moore and others' No. 7 Craddock, NE SW SW Section 29-2-7, had Bromide at 3,900 feet, sands at 4,000 and 4,065 feet and McLish at 4,116 feet, total depth 4,217 feet. It flowed 60 bbls. an hour while drilling.

Phillips Boyle and others' wildcat, No. 1 McCracken, NE NW NW Section 31-5-4, northern Pontotoc County, had a hole full of oil at a total depth of 2,173 feet and was being put on the pump. Same operators have made a location for a Wilcox sand test in SW SE SW Section 30-5-4.

New work in northern Pontotoc included Joe Perrine and others' No. 1 Roberts, NW NW SW Section 31-5-5, a rig; Radial Oil Co.'s No. 1 Huddleston, NE NE SW Section 19-5-6, rig; Paul Traugh and others' No. 1-A Lowry, NE SE NE Section 30-6-5, drilling at 320 feet.

Osage County

Completions in Osage County were as follows:

Ohio Osage Oil Co.'s No. 10, 300 feet south and 875 feet east of NW cor. Section 16-21-9, sand at 2,556-66 feet, shot with 10 quarts, pumped 2 bbls. of oil.

Barnsdall Oil Co.'s No. 18, 1,065 feet north and 500 feet west of C Section 30-21-9, sand at 317-38 feet, 10-bbl. pumper.

Johnson Oil & Refining Co.'s No. 14, 550 feet south and east of C Section 30-21-9, sand at 314-32 feet, 25-bbl. pumper.

H. F. Worley and Bay Oil Co.'s No. 1-A, near C NE NW SW Section 25-22-7, Hominy sand at 2,800 feet, Siliceous lime at 2,954 feet, total depth, pumped 146 bbls. in 24 hours.

Pure Oil Co.'s No. 3, SE SE NW Section 36-22-8, acidized in lime at 890-930 feet, pumped 40 bbls.

Kewanee Oil & Gas Co.'s No. 1,345 feet south and west of NE cor. Section 5-22-11, plugged back from 1,906 feet to 1,200 feet, acidized, pumped oil and water, abandoned.

R. L. Craig's No. 6, 1,100 feet from north and 390 feet from west lines of NE quarter Section 8-22-11, old well plugged back to lime at 1,100-78 feet, acidized, 8-bbl. pumper.

Continental Oil Co. and Gypsy Oil Co.'s No. 4, SW NW NW Section 22-24-7, sand at 2,490-2,591 feet, shot with 160 quarts at 2,511-91 feet, swabbed and flowed 230 bbls. in 24 hours.

Johnson Oil & Refining Co. was rigged up to deepen No. 2, 300 feet south and 660 feet east of C Section 30-21-9, present total depth 346 feet: Bay Oil Co. and Branstetter's No. 1, 810 feet from south and 300 feet from east lines of SW quarter Section 28-22-11, is a location; Lewis Production Co. and Texas Co.'s No. 6, 980 feet from south and 300 feet from east lines of SW quarter Section 9-24-7, location; Carter Oil Co. and others' No. 7 Ducotey, 1,280 feet from the south and 1,280 feet from west lines of SE quarter Section 3-25-6, location; Carter Oil Co. and others' No. 10 Eva Bean, SE SW NW Section 15-25-6, building rig.

Logan County

Mid-Continent Petroleum Corp. and others' No. 1 Nunn, SE SE NW Section 25-15-1w, Logan County, was dry and abandoned at 5,477 feet. Wilcox sands were topped at 5,447 and 5,461 feet.

Stanolind Oil & Gas Co. and Eason Oil & Refining Co. made a location for No. 1 Grogg, SW SW NE Section 20-18-4w, a wildcat about 4 miles south of the Cresecent Pool.

Grant County

A community test, No. 1 Wirtz, SE SE NW Section 22-28-4w, in Grant County, will be drilled by L. H. Wentz Oil Corp., Stanolind Oil & Gas Co., Amerada Petroleum Corp., Twin State Oil Co., Sinclair Prairie Oil Co. and Tide Water Oil Co. Wentz Oil Corp., which owns 17-44ths of the block, will have charge of the drill-

ing. The block consists of all of Sections 15 and 22, west half of Section 23 and the NW quarter of Section 27, all in Township 28-4w.

The Westgate Oil Co. has rig up and tools in to start No. 1 Clark, NW NE NW Section 17-29-4w, on Amerada Petroleum Corp.'s acreage. It is close to the Caldwell Pool, which is near the Kansas state line.

Noble County

Midco Oil Co.'s No. 1-A Yost, 800 feet from west and 400 feet from north lines of NE quarter Section 22-23-2w, in the Billings Pool, Noble County, which showed considerable oil production at 4,250-57 feet, and which was shut in for tankage but which went to water when opened, and quit flowing, will be completed with standard tools.

Stanolind Oil & Gas Co.'s No. 5 Devore, NW SE NW Section 27-22-2w, Polo Pool, found second Wilcox sand at 4,954 feet and was given small shots at 4,887-97 and 4,883-98 feet, but showed no increase in production. It had previously shown about 150 bbls. per day from upper pay. It was drilled to a total depth of 4,964 feet.

Twin State Oil Co.'s No. 1 Pfeiffer, 385 feet south and 660 feet west of C Section 33-20-2w, Lucien Pool, found first Wilcox sand at 4,907-53 feet and flowed 470 bbls. in 17 hours and thereafter an average of 410 bbls. per day for four days. It was drilling at 4,968 feet.

Magnolia Petroleum Co.'s No. 1 Sharp, C SW SW Section 34-20-2w, was reacidized after it had flowed about 190 bbls. per day, following the first acid treatment. It is at a total depth of 5,186 feet.

Carter Oil Co.'s No. 4 Weber, 810 feet north and 810 feet east of SW cor. Section 20-20-2w, Lucien Pool, is a location; Carter Oil Co.'s No. 1 M. Pfeiffer, 660 feet east and 390 feet south of C Section 33-20-2w, cellar; Sinclair Prairie Oil Co.'s No. 1 Frederick, C NE NE Section 33-20-2w, location; Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Pfeiffer, 1,170 south and 660 feet west of C Section 33-20-2w, location.

Lincoln County

The Texas Co.'s No. 3 Coyle, NE SW NW Section 34-14-4, in the Gessman Field in Lincoln County, was dry and abandoned at 3,071 feet. Cleveland sand was topped at 3,035 feet.

Twin State Oil Co.'s No. 2 Cook, NW SW SW Section 1-14-3, an old well plugged back from 5,068 feet to 4,300 feet, swabbed 150 bbls. of oil in 24 hours and was to be shot. No. 3 Cook, SE SE SW Section 1-14-3, had Wilcox sand at 5,003 feet and a hole full of water, total depth 5,051 feet. It was plugged back to 5,000 feet. Dolomite was topped at 4,964 feet.

Greater Seminole

Phillips Petroleum Co.'s No. 1 Harris, SW NW NE Section 5-6-5, Pottawatomie County, was abandoned at 4,275 feet. It showed a small oil production in Dolomite at 4,243-75 feet and was also tested in upper formations, but it did not make a commercial well.

Mudge Oil Co.'s No. 1-A Pompey, 330 feet north and 610 feet east of C Section 9-6-7, Seminole County, was dry and abandoned at 2,922 feet.

Sinclair Prairie Oil Co.'s No. 5 Myers, SW SE SE Section 32-7-4, Pottawatomie County, had dolomite at 4,185 feet, pay at 4,244-48 feet, total depth 4,250 feet. It was acidized and swabbed 200 bbls. of oil and 300 bbls. of water the first 24 hours. It was completed.

Pure Oil Co.'s No. 1 Wiley, SE SE NW Section 8-8-5, Pottawatomie County, an old well deepened from 4,101 feet to Wilcox sand at 4,303-04 feet, got 1,800 feet of water in the hole. It was plugged back to 4,300 feet and acidized with no commercial oil results and was abandoned.

In Seminole County, Droppleman and others' No. 1 Abb, SE NW SE Section 4-6-6, is a rig; Mudge Oil Co.'s No. 2 Heard, 220 feet north and 330 feet west of C Section 9-6-7, rig on the ground; Sovereign Drilling Co.'s No. 1 Norvall, SE NE SE Section 26-6-7, a rig; Stanolind Oil & Gas Co.'s No. 3 Palmer, NE NW NW Section 36-6-7, old well plugged back from 4,092 feet to 4,083 feet and 5-inch pipe set at 4,031 feet, not tested; Pittsburgh Pipe & Supply Co.'s No. 1 Phillips, NW NE NW Section 18-6-8, old total depth 3,965 feet, plugged back to 2,820 feet, not tested; Malernee and others' No. 1 West estate, SE SE NW Section 33-7-6, rig; Burke Greis Oil Co.'s No. 3 Jackson, 758 feet north and 150 feet east of SW cor. Section 29-7-8, Hughes County, building rig; Empire Oil & Refining Co.'s No. 1 Davis B, NW SE NE Section 30-7-8, Seminole County, rigging up rotary; Winona Oil Co. and Jarvis & Holm's No. 1 Myers, SE SW NE Section 31-7-8, old total depth 4,214 feet, in dolomite, drilled to Wilcox sand at 4,220-21 feet, total depth, and running tubing to test; Carter Oil Co. and others' No. 2 Keokuk, C S half NW NE Section 2-10-6, location; Carter Oil Co. and others' No. 4 Canard, C N half SW SE Section 36-11-6, location; Carter Oil Co. and others' No. 6 Biddle, C N half SE SE Section 35-11-6, location.

Near Completions

Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 2 Reed, SE SW SW Section 25-6-7, Seminole County, had Wilcox sand at 4,075 feet and swabbed 90 bbls. in 10 hours. It was drilling at 4,142 feet. Same companies' No. 1 Rogers, 1,170 feet north and 990 feet west of C Section 8-6-8, Seminole County, flowed 77 bbls. in eight hours from Booch sand at 2,745-68 feet. C. E. Reynolds' No. 1-A Harris, 1,065 feet from south and 405 feet from west lines of SW quarter Section 18-6-8, Seminole County, swabbed 45 bbls. in 10 hours. It had Gilcrease sand at 2,780 feet and was drilling at 2,823 feet.

American Bond & Investment Co.'s No. 1 Motley, C SW SE Section 10-7-3, Pottawatomie County, swabbed 30 bbls. in 24 hours with 3 bbls. of water from Hunton lime at 4,468-97 feet.

Anderson & Kerr, Inc.'s No. 1 Duvall, SE NW SW Section 3-7-4, Pottawatomie County, pumped 43 bbls. in 10 hours from Hunton lime topped at 3,755 feet, total depth 4,013 feet.

Elliott & Shell Petroleum Corp.'s No. 7 Pickens, NW NW NE Section 15-7-8, had Booch sand at 2,886-2,982 feet and flowed 50 bbls. in 24 hours.

Champlin Refining Co.'s No. 8 See, 990 feet south and 1,170 feet east of C Section 30-7-8, Seminole County, had a hole full of water. Wilcox sand, the big pay in that part of the Fish Pool, was topped at 4,147 feet and was drilled in only 2 feet. The crew was testing to try to find the source of the water.

Tom Phillips and others' No. 1 Abbott, NE cor. Section 33-8-7, a wildcat in Seminole County, was dry in Wilcox sand at 4,339-51 feet and will be plugged back.

The Texas Co.'s No. 1 Keaton, NW NW SW Section 4-8-10, Hughes County, a wildcat had a showing of oil and 1,000,000 feet of gas in Wilcox sand at 4,062-86 feet. It was being tested.

Oklahoma County

Banner Production Co. abandoned the location for No. 3 Bell, CWL NW NW NE Section 27-11-3w, Oklahoma City Pool. Pat King abandoned the location for No. 1 Chiles, NW NE NW Section 27-11-3w.

Phillips Petroleum Co. completed No. 2 Traders Compress, 150 feet from the south and 700 feet from the east lines of SW quarter Section 36-12-3w. It had Wilcox sand at 6,125-65 feet and 6,220-43 feet, total depth.

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It produced 5,250 bbls. in 19 hours and 9,800,000 feet of gas.

Slick Urschel, Inc., and others' No. 1 Owen, a community test, SE cor. Section 19-13-3w, in the Britton area, was completed. It had Wilcox sand at 6,769-89 feet, total depth, and produced 465 bbls. of oil in 24 hours.

Harrell & Davis made a location for No. 1 Wallace, 452 feet from north and 1,000 feet from east lines of SE quarter Section 22-11-3w, Oklahoma City.

Slick, Urschel, Inc., and others made a location for No. 1 Meeker, NW cor. Section 29-13-3w, in the Britton area.

Phillips Petroleum Co.'s No. 1 Great Western, 216 feet north and 1,140 feet east of C Section 34-12-3w, Oklahoma City Pool, flowed 291 bbls. in four hours on gas lift at 6,443 feet total depth; 1,027 bbls. in 13½ hours on gas lift at 6,500 feet, total depth. Second Wilcox sand was topped at 6,340 feet, total depth 6,518 feet and the well was drilling.

Over the line in Canadian County R. Carl Larkin's No. 1 Provinces, NW NW NE Section 33-13-5w, had the top of the Mississippi lime at 7,710 feet and drilled to 7,740 feet without an oil showing.

Creek County

Home Gas Co.'s No. 1 Givens, SW SW SE Section 27-18-7, Creek County, was a hole full of water from Wilcox sand at 3,025-27 feet and was abandoned.

Big Four Petroleum Co.'s No. 1 Anthis, SE SW NW Section 35-19-8, was abandoned in Bartlesville sand at 2,720-70 feet, which showed only water.

New work in the county included Big Four Petroleum Co.'s No. 1-A Holmes, SW NE SE Section 32-19-8, rigged up; same operator's No. 1-A Lapham, SW NE SW Section 35-19-8, machine in; L. B. Jackson's No. 2 Martin, NW NE NE Section 18-18-10, drilling at 650 feet; Elm Oil Co.'s No. 32 Manual, CNL NW NE Section 4-18-7, deepening, was drilling at 2,440 feet; O. O. Owens' No. 13 Riverbed, NW SW SW Section 17-18-7, rig up to deepen; Deep Rock Oil Corp.'s No. 12 Wheeler, NE SE NW Section 32-18-7, deepening, drilling at 2,134 feet.

Greer County

Robberson & Suppes' No. 1 Walker, SW cor. Section 19-4-20w, Greer County, was dry and abandoned at 1,600 feet.

Cleveland County

Sinclair Prairie Oil Co. and others' No. 1 Franklin, SE NW SE Section 21-10-2w, on a community block in Cleveland County, has been completed. This was an enormous wet gasser, estimated as high as 200,000,000 feet per day which also produces distillate. The gas contains about 1.34 gallons of gasoline per 1,000 feet of gas. Phillips Petroleum Co. has laid a 6⅝-inch pipe line from its casinghead plants in the Oklahoma Field and will buy 10,000,000 feet of gas per day. The gas is run through traps and the distillate taken out and this will be disposed of separately by the owners of the well. Top of the Wilcox sand lies at 7,267 feet and the total depth is 7,291 feet.

Beckham County

Star Oil Co. has slush pits and cellar dug for No. 1 Blair, C NW SE Section 32-9-26w, in Beckham County, a 3,200-foot standard tool wildcat test.

Okfuskee County

Stekoll and others' No. 1-A Ditzler, SW SE NE Section 2-10-11, in the Weleetka area, Okfuskee County, was dry and abandoned at 1,700 feet.

Grady County

Carter Oil Co. is drilling deeper in its old No. 1 R. Nash, NW cor. Section 8-3-5w, Grady County, old total depth 1,853 feet.

Caddo County

Marathon Oil Co.'s No. 1 was building rig for No. 3 Marcland, SE SW NW Section 2-5-9w, Caddo County.

Southern Fields

Completions in the southern fields in the past week and their initial daily production were as follows:

Louis Sikes' No. 10 Franklin, 800 feet north and west of SE cor. Section 18-1s-8w, Stephens County, oil sand at 1,845-65 feet, 65-bbl. pumper.

Skelly Oil Co.'s No. 1 Bair, 947 feet south and 373 feet west of C Section 9-2s-2w, Carter County, sand series at 1,141 to 1,520 feet, 50 bbls.

Skelly Oil Co.'s No. 1 fee, SE SW NE Section 17-2s-2w, abandoned at 2,461 feet because of salt water.

Ben H. Levey's No. 1 Ryan, NW NW NW Section 16-6s-6w, Jefferson County, dry and abandoned at 2,261 feet.

Headington and others' No. 2 Snell, 400 feet from north and 560 feet from east lines of SE quarter Section 36-7s-5, Marshall County, dry and abandoned at 480 feet.

Levelle Coal Co.'s No. 1 Walkup, SE NE NE SW Section 1-8s-5, Marshall County, dry and abandoned at 578 feet.

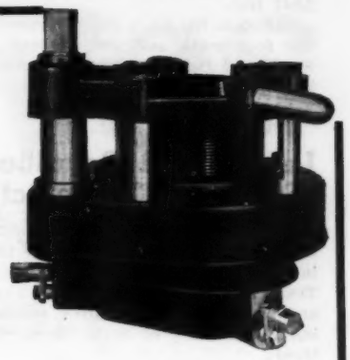
George Pace and others' No. 1 Daily, NE cor. Section 26-1n-8w, Stephens County, dry and abandoned at 3,552 feet.

New work in the southern fields includes Louis Sikes' No. 1-A Markham, CSL SW SW Section 18-1s-8w, Stephens County, building rig; Louis Sikes' No. 5 Dolan, SE cor. NW NW NW Section 15-1s-8w, drilling at 2,098 feet; Shasta Oil Co.'s No. 17 Patterson, C W half SE NW Section 1-2s-10w, Cotton County, a rig; Blackwell Oil & Gas Co.'s No. 2 Nigh, NW SE SW Section 11-2s-8w, Stephens County, location; L. A. Wilkinson's No. 1-A Crump, NE cor. NW NE NE Section 15-2s-5w, Stephens County; drilling at 520 feet; C. R. Smith's No. 1 fee, SW SE NE Section 27-2s-3w, old well, moving in material to deepen to 4,000 feet; George Pace and others' No. 1 Barrett, SE SE SE Section 14-6s-6w, Love County, moving in rig for a 1,900-foot test; O. V. Beck's No. 6 Seay, 820 feet south and 870 feet east of C Section 34-6s-5w, Jefferson County, old well deepened to 3,028 feet and abandoned as dry; Hiddington and others' No. 1 Snell B, 495 feet from south and 165 feet from east lines of NE quarter Section 36-7s-5e, Marshall County, location; Centrop Oil Co.'s No. 2 Minter, SW cor. Section 30-7s-6e, deepening, machine rigged up; Fleming & Kimbell's No. 3 Snell B, NW cor. SW SW NW Section 31-7s-6e, Marshall County, machine in; Norman Smith's No. 1 Chestnut, NE cor. Section 22-8s-5e, Marshall County, rigging up machine. H. B. Smith and others' No. 1 Henry, C NW NE Section 10-8s-7e, Bryan County, rig on the ground for 4,500-foot rotary test.

Manson and others' No. 1 Minor B, NE NW NE Section 15-1n-20w, Jackson County, cellar; Selby Oil & Gas Co.'s No. 1 Cobb, NE NW NE Section 22-1n-20w, deepening from 1,140 feet because production had fallen from 14 bbls. to 5 bbls. per day, drilling at 1,165 feet.

Golden & Cochran's No. 3 Gann, 1,170 feet north and 710 feet west of C Section 31-2n-4w, Stephens County, spudded.

Ashcraft & Palmer's No. 3 School Land, NE cor. NE SE SE Section 20-2n-10w, Comanche County, flowed



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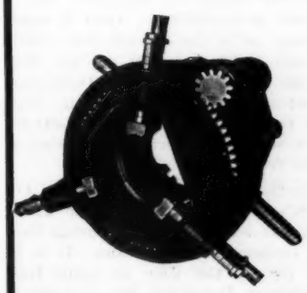

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36 bbls. in 24 hours from a sand series at 763 to 883 feet. The crew was running 5½-inch liner.

Twin State Oil Co.'s No. 1 Bridenthal, NW NE NE Section 9-1s-3w, Carter County, swabbed 90 bbls. of oil in 24 hours at a total depth of 2,847 feet.

Samedan Oil Co.'s No. 6 Trahern, 660 feet north and 180 west of C Section 31-1s-2w, swabbed 120 bbls. in 24 hours from sand series at 2,212-2,445 feet.

Leases and Royalties Defined in Texas Act

Austin, Tex., July 1.—The point which causes most inquiries thus far in the administration of the new Texas Securities Act has been on oil and gas leases and royalties, according to Secretary of State Gerald C. Mann.

The definition of securities in Section 2 states that "any certificate or any instrument representing any interest in or under an oil, gas or mining lease, fee or title" is a security. This includes leases, assignments royalty deeds, units, stock, subscriptions to development contracts and any form of instruments. The sale of such securities is strictly regulated by the act.

There are a few specific exemptions under which such instruments may be executed and disposed of without coming under the law. Those who are not temporarily or permanently engaged in the sale of securities—for example, a farmer who leases his land in an isolated transaction, need not apply for a permit. Where an oil tract is sold out to a partnership, pool or company, not a corporation, whose total membership will not, after such sale exceed 10 and where the organization expenses do not exceed 2 per cent of the invested capital, the parties need not qualify. Where parties form a corporation and not more than 15 subscribe to all the stock, they need not qualify.

Those who must qualify under the law are divided into three classes: (1) Issuer; (2) dealer; (3) salesman.

Individuals, partnerships, corporations, etc., must qualify as issuers where they offer to sell units, stock certificates, or any kind of participation contracts, drilling contracts and leases and deeds in undivided interests of any kind whatsoever. Such issuer must sell his securities through a certified dealer. The issuer could sell his or its own interests by qualifying as a dealer as well as an issuer.

One who executes only straight recordable oil leases and deeds to definite property or separated interest need not qualify as an issuer, but he should qualify as a dealer or sell his interests through a registered dealer. Salesmen must qualify through a registered dealer.

CANADIAN GAS CONTRACT

OTTAWA, Canada, July 1.—Grote Stirling, Minister of National Defense, has announced that the Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary will be employed to construct natural gas services for the new permanent force barracks at Calgary, Alberta. The company will be paid the cost of labor and materials plus 10 per cent.

Canadian Fields

Canadian Crude Production Declines 4 Per Cent in 1935

By VICTOR LAURISTON

CHATHAM, Ontario, July 1.—Official figures show the crude oil production of all Canadian fields in April totaled 113,685 bbls. compared with 120,537 bbls. in March and 118,890 bbls. in April. Production for the four months of 1935 was 470,421 bbls., a 4 per cent decline from the total of 489,907 bbls. in the corresponding period last year.

New Brunswick production in April dropped from 1,257 to 837 bbls., compared with March; but the four months' total was up from 4,028 to 4,082 bbls. Ontario's production in April, 12,998 bbls., compared with 11,198 bbls. in March; and was 49,230 bbls. for the four months against 43,195 bbls. in the 1934 period. Alberta production dropped from 108,082 bbls. in March to 99,850 bbls. in April; and from 442,684 bbls. in the 1934 period to 417,109 bbls. this year.

Turner Valley Field

In Section 28-18-2w5, South Turner Valley, British Dominion Oil & Development Corp.'s No. 4, LSD 6, is below 5,700 feet and expected to get the Madison lime contact around 5,850 feet. Renfrew Royalties' No. 1 Morris & Goodfellow, LSD 3, same section, is in the crooked hole sands around 5,400 feet and getting close to the brown sand of the Dalhousie, a potential oil-bearing horizon. Turner Valley Royalties' No. 1, LSD 13, same section, is working on casing at 3,160 feet.

Farther south, Union Freehold Oil Corp.'s No. 1, LSD 8, Section 21-18-2w5, has resumed after securing fishing equipment from Texas. It is in the top of the lime at 5,610 feet. Northwest Royalties' No. 1, LSD 5, same section, is arranging to resume from 3,300 feet.

In the North Turner Valley, Model Oils' No. 3, LSD 1, Section 22-20-3w5, is resuming from 503 feet after installing rotary equipment.

In the North Central Turner Valley area, Dalhousie Oil Co.'s No. 1, LSD 4, Section 18-20-2w5, has been rigged and is cleaning out. It may be deepened in the Madison. Originally started about 1913 as Southern Alberta Oil Co.'s No. 1, it had a good light crude production from the upper horizons for several years. Taken over by Dalhousie Oil Co., an Imperial subsidiary, it was deepened, getting the Madison at 4,406 feet and finishing at 4,565 feet with a good initial wet gas and naphtha production, which later dropped off considerably. It is in the section immediately north of Royalite's No. 4 gusher, now abandoned, and all the acreage in the immediate vicinity is owned by the Dalhousie and Royalite companies.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co.'s No. 1 McLaren, LSD 12, Section 13-31-10w5, is below 5,000 feet.

On the Highwood-Sinclair structure, south of Turner Valley, Maple Leaf Royalties' No. 1 Banner, LSD 6, Section 34-17-3w5, is deepening from 1,425 feet after cementing casing. It has a flow of 1,500,000 feet a day which is being used for fuel. Farther south, on the Pekisko structure, Pekisko Hills Co.'s No. 1, LSD 6, Section 6-17-2w5, has resumed from 2,315 feet, with Los Angeles and Calgary interests backing the test. The outfit is running two tours. It got the lime at 1,071 feet and has some gas.

On the Moose Dome structure, E. B. Clarke and associates of Vancouver are moving derrick timbers for Moose Oils' No. 2, LSD 16, Section 29-22-6w5. Location offsets Moose Oils' No. 1, standing unfinished at 2,815 feet, with tools in the hole. No. 1 got a fair commercial gas production and some 48.5 Beaume crude in the Devonian lime.

Mar Jon Operations

Shareholders of Mar Jon Oil Co. held their annual meeting at Vancouver recently, when the directors were re-elected, with E. M. Craig as president. The company has an 8½ per cent royalty interest in Freehold-Mar Jon's No. 1, Section 28-18-2w5, South Turner Valley. Mar Jon Oil Co.'s No. 2, in the same section, was increased to 100 bbls. by a shot, but has since declined to about 75 bbls. a day. The company is now centering its activity on the Watson structure, north and west of Lundbreck, where Mar Jon Oil Co.'s No. 3, LSD 3, Section 4-10-2w5, is in the lower Benton formation below 1,970 feet, after getting good shows of gas at 1,572 feet and 1,690 feet. Mar Jon-Maxmont's No. 4, LSD 10, Section 20-9-2w5, is deepening.

Aldersyde Structure

On the Aldersyde structure, east of Turner Valley, Ranchmen's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-28w4, is below 6,410 feet with 5-inch hole in good shape and some crude in the well. It is a sweet, amber-colored oil of 53.1 gravity, tests showing 97.5 per cent recovery. Farther south on the same structure, Globe Royalties' No. 1, LSD 3, Section 2-20-29w4, is rebuilding derrick hauled from Home Oil Co.'s No. 7 in South Turner Valley.

New Valley Project

Tentative arrangements have been made by New Valley Oil Co. of Calgary for completion of its No. 1 test on the New Valley structure, LSD 4, Section 6-21-2w5, by McLeod Oil Co. The arrangement calls for deepening to 4,200 feet, unless commercial production is previously secured, in return for 260,000 shares of New Valley stock. The New Valley structure is an almost parallel fold east and north of the North Turner Valley Field. New Valley's No. 1, shut down since 1926 at 2,200 feet, stopped work in a post-Benton formation.

Alberta Border Fields

On the Comrey structure, southeastern Alberta, Comrey Oil Co.'s No. 1, Section 9-1-5w4, has resumed drilling from 200 feet. Location, on Imperial Oil acreage, is 34 miles south of Manyberries and 1½ miles north of the Montana line, being 16 miles northeast of the Hamilton well in the Flat Coulee Field of Montana. Location is on a well-defined structure geologized by Dr. T. A. Link of Imperial Oil, Ltd. Cable tools are being used and the Madison contact is looked for at about 3,300 feet.

On the Del Bonita structure, Terminal Oil Co.'s No. 1, H. Orcutt location, NE Section 18-1-21w4, is in a hard streak of the Blackleaf formation below 3,675 feet, with the Madison contact looked for around 5,000 feet. Del Bonita Petroleum, Ltd., has been organized with office at Lethbridge to drill a test on the same structure.

It is reported California interests

W. L. Jones, Midway Refining Co., Goldsboro, and J. R. Sanders, with the Carson Refinery, Brady, Texas

are arranging for a new deep test on acreage of the Nordon Corp. on the Twin River structure south of Lethbridge. Two earlier tests in this area got good shows of high grade crude in the top of the Madison limestone; and Los Angeles interests have since been doing a lot of geological work on the structure.

In the Alberta end of the international Red Coulee Field, Vanalta's No. 7, LSD 3, Section 4-1-16w4, is below 2,700 feet with only slight oil showings. It went through the sand at 2,485 feet without getting commercial production and is being deepened into the Madison limestone. O. R. Lang has the drilling contract.

Prospects of commercial production in the southern Alberta border area are indicated by the report that Mahoney's No. 2 in the Whitlash Field, Section 23-37-4e, has a small crude production in the Bow Island sand. This horizon, a short distance north of the boundary, has yielded gas in a number of localities and Canadian operators believe an Alberta location low enough on structure will get commercial crude.

British Columbia Test

In the Sage Creek area, southeastern British Columbia, Columbia Oils' No. 1 is below 3,477 feet. It got an additional gas flow with further crude showings at 3,465 feet, and is working in a softer formation, with the diamond drill cores showing pronounced oil saturation.

Hudson Bay Junction

In the Hudson Bay Junction area, northern Saskatchewan, Trail Blazer-Senator's No. 1, SW Section 32-44-3w2, is down 1,085 feet with casing run to 588 feet. Some additional oil shows have been met but no commercial production. Dr. Donald M. MacDonald, of Antigonish, N. S., has been engaged jointly by Petroleum Engineering Co. which handled the drilling contract and Trail Blazer Oil & Gas Co. and is now making a complete survey of the field. His report, and analysis of samples, will determine whether No. 1 will be deepened, but at least one additional test will be started this year at Hudson Bay Junction. About 20 miles south, at Kakwa, Petroleum Engineering Co. has drilled two structure tests for Amalgamated Oils, Ltd. of Winnipeg, getting gas in both around 275 feet. This work will be continued through the season, the structure being outlined by a series of shallow holes preparatory to drilling a deep test.

Western Geological Work

Dr. L. S. Russell of the Geological Survey of Canada arrived in Calgary recently to organize field parties for the study of oil and gas structures in Southern Alberta. The work is part of the $1,000,000 geological survey program, covering all parts of Canada, initiated by W. A. Gordon, Federal Minister of Mines.

The Southern Alberta geological work will be divided into three units. Dr. J. S. Sproule of the University of Toronto will be in charge of the group between Medicine Hat and Lethbridge. R. W. Landes of Saskatoon will have charge in the Milk River area; and W. C. Howells of Edmonton will direct a third camp at Foremost, which will be Dr. Russell's headquarters. In all, 12 geological and mining graduates will be engaged, assisted by several Alberta graduates and undergraduates. Southern Alberta contains important gas fields at Bow Island, Medicine Hat, Foremost and Burdett, with producing wells on the Rogers-Imperial Structure and at Erickson Coulee; and some oil production in the Red Coulee and Skiff Fields. It is believed productive structures proven on the Montana side of the boundary extend north into Alberta.

While other surveys authorized mostly concern metallic minerals, possibilities of oil and gas discoveries are indicated in the work undertaken by A. W. Johnston of the Geological Survey of Canada in an unmapped and unexplored territory of 30,000 square miles in Northern Manitoba. The territory extends for 250 miles inland from Churchill on Hudson's Bay, between 58 and 60 degrees latitude, the latter being the northern boundary of Manitoba. No geological information has ever been secured on this area, which is unknown except for Samuel Hearne's travels in the eighteenth century. Airplane transport and canoes will be used by the party.

Ontario Drilling Operations

In the Dover Field, Kent County, Ontario, Central Pipe Line Co.'s No. 2, Joseph Sterling farm, Lot 1, Front Concession, Dover East Township, is rigged up ready to spud. It will be drilled through the producing horizon of the Trenton limestone. Prairie Oil & Gas Co.'s No. 4, Stephens farm, Lot 2, Front Concession, is below 1,400 feet. E. P. Rowe & Associates, No. 1, Vital Duphette farm, SW Lot 2, Concession 4, is rigging. F. H. Stover and Geo. Rawlings' No. 1, Chas. Peltier farm, NW corner Front Concession and Sterling Side Road, is below 1,550 feet. The Massey Syndicate of Amherstburg has leased 1,300 acres on the Dover side of the River Thames, east of the Stover-Rawlings test, and will probably drill. The acreage is along the River Road in Dover.

In Lambton County, a community deep test is being started through the efforts of Fred H. Merritt, mining engineer, of Sarnia, formerly of Duluth. All the landowners in a block signed a community lease under which each owner participates in the royalty from all wells drilled. Location of the well, to be known as Merrit et al's No. 1 Arthur J. Gammon, was made by Mr. Merritt, in Concession 14, Plympton Township, west of Forest. Andrew A. Heal of Petrolia has the drilling contract. Discussing the project, Mr. Merritt stated: "Only the results obtained by the drill will disclose the facts. However, analyses of geological conditions as recorded by the Dominion Government indicate potential value in the locality chosen. Every farmer on the lease will receive at least $1 per acre annually as long as the commercial production is maintained. If we develop a virgin enclosure with the natural gas pressure undisturbed, we have a chance of a gusher up to 500 bbls. a day, depending on the porosity of the sand, thinness of the oil, gas pressure and the hydrostatic pressure of the supporting salt water. It is our purpose to drill on similar blocks over Lambton County, using the same plan, wherever the owners of land will co-operate and the location is approved by our geological department."

In the De Clute Field, Kent County, Union Gas Co.'s No. 28, Lot 17, Concession 13, Raleigh Township, finished a dry hole around 2,000 feet.

In Lambton County, British Petroleum Co.'s No. 1, A. McKinley farm, Concession 8, Plympton Township, is down more than 1,300 feet. It has had several gas and oil shows, one oil showing approximating a small pumper, but will be deepened beyond 2,000 feet.

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CLUB BLDG. DENVER, COLO.

Kansas Developments

By JAMES McINTYRE

POOL ALLOWABLES IN KANSAS OVERTAXING THE PIPE LINES

The Stanolind Pipe Line Co. is the largest oil gathering system in the western Kansas fields, and the only gathering system in some of the large new producing pools of Russell and Ellis Counties. The Stanolind Crude Oil Purchasing Co., the largest oil buyer in western Kansas, has been forced to issue a notice to its customers in Russell and Ellis Counties that it will have to regulate its purchases to fit the capacity of the pipe line system.

The wording of the conservation law in Kansas has created a condition wherein the conservation department is obliged to make allowables in pools and in individual wells that disregard the pipe line capacity in the fields to make the allowable.

The Stanolind company for example is able to take about 10,000 bbls. a day in a number of pools where the combined allowable is about 15,000 bbls. a day. The Stanolind company materially increased its carrying capacity in the past two years, but the producers managed to keep ahead of the pipe line and the market demand of the purchasing company. The Sinclair Crude Oil Purchasing Co., therefore, has asked operators in Russell and Ellis Counties connected with the Stanolind lines to co-operate with it in the following program effective July 1:

1. No oil to be allocated to new wells completed during the month. Such wells to be included in the schedule of the allowables fixed for the month immediately succeeding the month in which completed.

2. No additional oil to be purchased on account of new potentials taken on wells or properties which do not have sufficient unrun oil for the balance of the month to equal the quantity estimated to be received during the taking of potentials.

3. On the last day of the month only sufficient oil to be run to clean up the allowable as fixed in our schedules for the current month; and in as much as we cannot run split tanks the gaugers will inform lease pumpers the height to which tanks should be filled in order to clean up the allowable on the last day of the month. The gaugers will make every effort to avoid turning down tanks on the last day of the month, but should a lease have a full tank, the running of which would over-run the allowable for the lease during the current month, it will be necessary to refuse same until the first of the following month.

4. As early as possible in each month we will furnish you with a statement showing the barrels to be run from each of your leases during the current month. This amount will be based on a percentage of the allowable fixed by the Corporation Commission, which will maintain ratable takings, give Stanolind Crude Oil Purchasing Co. sufficient oil to meet its market demand and maintain operations of Stanolind Pipe Line Co. at the maximum capacity of its facilities.

Kansas Production

Estimated daily average production of Kansas for the week ended June 29 and for the preceding week follows:

	Barrels	
	June 29	June 22
Burrton	23,375	23,200
Ritz-Canton	7,350	7,500
Hollow	3,775	3,825
Voshell	4,075	4,850
Johnson	1,250	1,217
Nikkell	3,600	3,600
Sedgwick County	8,725	8,875
Ellsworth County	6,520	6,060
Barton County	2,200	2,200
Rice County:		
Chase Pool	17,100	17,625
Remainder	7,625	7,022
Ellis County	209	890
Kingman County	710	885
Stafford County	2,370	1,651
Russell County	12,500	11,800
Greenwood County	10,900	11,100
Butler County	18,600	18,500
Other pools	16,616	17,525
Total Kansas	147,500	148,325

Russell County

Russell County's oil fields passed a full week without a completed well being reported, which is extraordinary. A number of wells were in the near completion stage and new work was started as follows:

Central Petroleum Co.'s No. 1 Smith, SE cor. NW NW NE Section 30-12-15w, cellar dug; Texas Co.'s No. 1 Johnson, SW NW NE Section 3-14-15w, moving in material; Crown Oil Co. and Saco Oil Co.'s No. 1 Mills, NW NW NW Section 10-14-15w, location; Darby Petroleum Co.'s No. 1 Dumler, SE SE NE Section 11-14-15w, location; Bridgeport Machine Co.'s No. 1 McAllis, NE NE SE Section 33-15-13w, rigging up.

Hartman & Blair's No. 1 Cook, NE cor. Section 26-13-15w, swabbed 110 bbls. of oil and 54 bbls. of water in 24 hours from Siliceous lime pay at 3,327-30 feet. Later it swabbed 130 bbls. of 26 gravity oil and 35 bbls. of water in 24 hours.

Stanolind Oil & Gas Co.'s No. 36 Baxter, SE SE SW Section 32-13-15w, acidized in Oswald lime topped at 3,050 feet, total depth 3,060 feet, pumped 27 bbls. of oil and 81 bbls. of water in 24 hours.

Tom Palmer's No. 1 Bender, SE SW SE Section 16-13-14w, had Siliceous lime at 3,270 feet and drilled to 3,345 feet. It showed only water, and the operation was shut down.

Buffalo Oil Co. had a hole full of water in Oswald lime at 3,080-90 feet in No. 3 Schaffer-Anschutz, 520 feet from north and 1,030 feet from west lines of SW quarter Section 27-13-14w.

J. C. Schaffer, Inc.'s No. 1 Cram, NE NE SE Section 11-14-15w, pumped 6 bbls. of fluid per hour from Siliceous lime at 3,298-3,305 feet.

Lario Oil & Gas Co. and Texas Co.'s No. 2 Boxberger, SW NW NW Section 24-14-15w, had Siliceous lime at 3,259-62 feet and 2,300 feet of oil in the hole.

Wakefield & Armer's No. 1 Hall, NE SE SW Section 36-14-15w, a wildcat, pumped 105 bbls. of oil in six hours from Siliceous lime at 3,171-76 feet. The crew was cleaning out.

Sinclair Prairie Oil Co.'s No. 3 Hefferman, NW SW NE Section 26-15-13w, pumped 120 bbls. of oil in 24 hours from Siliceous lime at 3,253-55½ feet.

Barton County

Darby Petroleum Co. completed No. 1 Kultgen, SE NE NW Section 16-16-12w, Barton County. It produced 928 bbls. in 24 hours from Siliceous lime at 3,341-½-42 feet.

Darby Petroleum Co. made a location for No. 3 Jarus, NW NW NE Section 16-16-12w, and had cellar dug for No. 2 Kultgen, NE NE NW Section 16-16-12w.

Lario Oil & Gas Co.'s No. 1 Nuss, NW SW SW Section 11-16-14w, pumped 8 bbls. of oil and 15 bbls. of water from Oswald lime, total depth 3,391½ feet, which had been acidized. It is a wildcat test.

Rush County

Eldorado Refining Co.'s No. 1 Stang, SE SE SW Section 36-17-17w, a wildcat in Rush County, had hole full of water at 3,475-79 feet, but small showings of oil and gas down to 3,577 feet. Granite wash was topped at 3,550 feet. The hole was abandoned.

Boyle & Grossman's No. 1 Yost, a wildcat test, C SW SW Section 23-17-18w, had Kansas City lime and a hole full of water at 3,380-90 feet, and was underreaming 6-inch pipe.

Rice County

Smith & Ash and Phillips Petroleum Co.'s No. 3 Beyers, SW SE NW Section 21-19-9w, Rice County, was a small completion. It produced 25 bbls. of oil and 20 bbls. of water on its potential test from Siliceous lime at 3,273-95 feet.

Gypsy Oil Co.'s No. 2 Callis, 982 feet south and 330 feet east of NW cor. Section 28-18-9w, had Siliceous lime at 3,235½-54 feet, total depth. It produced 275 bbls. of oil and water on its potential test, and was completed.

Empire Oil & Refining Co.'s No. 3 Tournear, NE SE NE Section 29-19-9w, made a potential production of 712 bbls. in 24 hours from Siliceous lime at 3,208-34 feet.

Empire Oil & Refining Co.'s No. 8 Proffitt was completed in Siliceous lime at 3,264-70 feet after it had tested 472 bbls. in 24 hours.

Gypsy Oil Co.'s No. 1 Smith, NE cor. Section 16-20-9w, made 1,473 bbls. in 24 hours from Siliceous lime at 3,223-37 feet and was completed.

New work in Rice County included Skelly Oil Co.'s No. 1 Volkland, SE SE NW Section 27-18-10w, a location; Slick, Pryor & Lockhart's No. 3 Orth, SW SW NE Section 27-18-10w, deepening from 2,945 feet, and No. 4 Orth, SW NW NE Section 27-18-10w, cellar; Phillips Petroleum Co.'s No. 1 Gouldner, SW NW NE Section 16-18-9w, location; Emith & Ash and Phillips Petroleum Co.'s No. 4 Beyers, NW SE NW Section 21-19-9w, moving in material; Twin Drilling Co.'s No. 1 Burchart, SW SW SW Section 8-20-10w, cellar; Marathon Oil Co.'s No. 5 Proffitt, near C SW SW NW Section 5-20-9w, location; Gypsy Oil Co.'s No. 2 Dewitt, NE NE SE Section 9-20-9w, moving in material; Mid-Continent Petroleum Corp.'s No. 1 Hartle, NW SW NW Section 15-20-9w, moving in material; Magnolia Petroleum Co.'s No. 1 Smith, NE NW NE Section 16-20-9w, moving in material; McPherson Drilling Co.'s No. 1 Leonard, SW SW NW Section 2-21-7w, moving in material; C. B. Teague and others' No. 1 Hauschild, NE NE NW Section 15-21-7w, cellar.

C. B. Davis and others' No. 2 Duesser, C E half NE SW Section 31-19-10w, had a hole full of oil from Siliceous lime pay at 3,285-92 feet, total depth.

Phillips Petroleum Co.'s No. 6 Link, SE NE SW Section 21-19-9w, which had Siliceous lime at 3,252 feet, drilled to 3,406 feet and stood with the hole filled with water. It had only a small showing of oil at 3,284 feet.

Ellsworth County

Bradley & Scanlon and others' No. 2 Mohney, NW SE SE Section 14-17-9w, in the Rolfs Pool in Ellsworth County, was completed as a 700-bbl. initial producer at 3,190-94 feet, total depth, in Siliceous lime.

Empire Oil & Refining Co.'s No. 5 Rolfs, NW SE NE Section 14-17-9w, made a potential production of 1,750 bbls. in 24 hours from Siliceous lime at 3,175-78 feet, and was completed.

Atlantic Oil Producing Co. had cellar dug for No. 8 Rolfs, SW NW SE Section 14-17-9w. Bradley & Scanlon and others were rigged up to start No. 4 Mohney, NE SW SE Section 14-17-9w, and had cellar dug for No. 5 Mohney, SE SW SE Section 14-17-9w. C. Davis and Winkler & Koch had ponds dugs for No. 3 Melchert, SE NW NE Section 23-17-9w.

Vickers Petroleum Co. and others' No. 2 Janssen, NW SW NW Section 13-17-9w, found Siliceous lime at 3,210-14 feet, total depth, and the hole filled 3,000 feet with oil in 40 minutes.

Atlantic Oil Producing Co.'s No. 6 Rolfs, pumped 195 bbls. of oil in three hours from Siliceous lime at 3,187-91 feet, total depth.

Carter Oil Co. and others' No. 1 Ogden, a community test, had a hole

full of oil from Siliceous lime at 3,183-87 feet, total depth.

Vickers Petroleum Co.'s No. 1 Gouldner, SE NE NW Section 16-18-9w, which made a potential production of 349 bbls. of oil in 24 hours from Siliceous lime at 3,224-28 feet, drilled 2 feet deeper and pumped 28 bbls. an hour for five hours or at the rate of 672 bbls. per day.

Gypsy Oil Co.'s No. 1 Steckel, NE cor. Section 1-20-11w, found Siliceous lime at 3,268-75 feet and the hole filled 2,100 feet with oil in three hours.

Reno County

Barnsdall Oil Co.'s No. 2 Sabin C, SW NW SE Section 11-23-4w, a completion, made a potential production of 1,540 bbls. from Hunton lime at bottomed at 3,783 feet. It had twice been acidized.

Olson Oil Co., Shell Petroleum Corp. and Continental Oil Co.'s No. 6 Krehbiel A, C W half E half NW Section 26-23-4w, pumped 542 bbls. the first 24 hours from Hunton at 3,583-93 feet, total depth, and was completed.

Gypsy Oil Co.'s No. 2 Myers, SE NE NW Section 3-24-4w, produced 1,499 bbls. in 24 hours from Hunton at 3,594-3,603 feet and was completed.

Marathon Oil Co.'s No. 5 Vansickle, SE SW NW Section 23-23-4w, had a hole full of water from Siliceous lime at 3,860-75 feet. Wilcox sand and Hunton and Viola contained no oil and the hole was plugged back to Chat topped at 3,265 feet.

Olson Oil Co. and Shell Petroleum Corp.'s No. 4 Goering A, SE SE SW Section 26-23-4w, was at a depth of 3,380 feet with the well making gas by heads at the rate of 12,000,000 feet per day. Casing had been set at 3,341 feet. The well had shown a 26,000,000-foot gas production at 3,326 feet.

McBride, Inc., and Derby Oil Co.'s No. 1 Grandon, NW NE NE Section 3-24-4w, which had Siliceous lime at 3,811-17 feet and a hole full of water and which was plugged back to various levels, flowed 153 bbls. of oil and a large volume of water in 12 hours at a new total depth of 3,368 feet. It was then acidized.

Harvey County

D. R. Lauck and others' No. 1 Baller, SW cor. Section 29-24-1e, Harvey County, had Siliceous lime at 3,671-83 feet but no oil. It found nothing but water in the upper formations and was abandoned.

Cameron, Derby Oil Co. and Trees' No. 1 Brainard, SW SE NW Section 19-24-2, a wildcat, was dry and abandoned at 3,262 feet. Mississippi lime was topped at 2,983 feet and the hole filled with water at 3,075 feet.

McPherson County

Shell Petroleum Corp. deepened an old well, No. 3 Decker, C SE NE Section 11-19-2w, in the Ritz Pool, McPherson County, from 2,939 feet to Viola lime at 3,385-95 feet, and it was completed after it had made a potential production of 109 bbls. of oil and 135 bbls. of water.

Hipple and others' No. 3 Brown, SW NW NE Section 10-21-6w, was dry and abandoned at 3,442 feet. Chat was topped at 3,397 feet. It showed only a little oil and some water.

Mead Production Co. had cellar dug for No. 1 Johnson, NW SW NE Section 30-18-2w.

Ellis County

L. Roark and others were moving in material for No. 1 Bemis, SE SE SE Section 16-11-17w, Ellis County, a wildcat.

Rooks County

Phillips Petroleum Co.'s No. 1 Ordway, C NE NW Section 6-9-17w, Rooks County, stood with 2,000 feet of oil in the hole from Siliceous lime at 3,421 feet (corrected), total depth 3,434 feet. It had not been tested.

Greenwood and Woodson Counties

Aikman & Braden have a 25-bbl. initial producer in No. 2 Povemire, C N half SW NW Section 14-22-13, Greenwood County, from sand at 1,829-41 feet. It was completed.

Nye & Kilby were drilling at 500 feet in No. 5 Shaffer, 760 feet from south and 660 feet from east lines of SW quarter Section 31-23-14. Over the line in Woodson County the Oko Oil Co. was drilling at 675 feet in No. 11 Kimbel, 1,120 feet from south and 685 feet from west lines of NW quarter Section 18-24-14.

Kingman County

Skelly Oil Co. and others were building rotary rig for No. 1 Krehbiel, 990 feet south and 440 feet west of NE cor. Section 25-27-11w, in Kingman County.

Cowley County

Trees Oil Co. have a 45-bbl. initial producer in No. 1 Houser, C SW SE Section 19-30-4, completed in sand at 2,852-63 feet, which had been shot with 40 quarts.

McNabb & Best's No. 1 Roberts, SE NE NE Section 7-33-3, an old well deepened from 3,499 to 3,515 feet, was dry and was abandoned.

Watchorn Oil & Gas Co.'s No. 1 Gregory, SW SE SE Section 6-35-3, was shot with 40 quarts at 3,480-3,500 feet and made an average of 186 bbls. a day for four days. It was completed.

Sanford & Connell were rigging up machine for No. 1-B Drury, 755 feet south and 660 feet west of NE cor. Section 31-31-6. Minnehoma Oil & Gas Co. was rigging up machine for No. 5 Ferguson, 907 feet north and 660 feet east of SW cor. Section 31-31-8.

Sedgwick County

Dickey Oil Co. completed No. 2 Riley, SW NE SW Section 20-28-1e, Sedgwick County, in Chat at 3,092-3,112 feet, and have a 133-bbl. initial producer.

T. C. Johnson and Atlantic Oil Producing Co.'s No. 1 Marsh, 330 feet south and 1,544 feet west of C Section 20-28-1e, pumped and flowed 192 bbls. in 24 hours from Chat at 3,013-17 feet, total depth, and was completed.

Dickey Oil Co. and others' No. 1 Chase, SE SE SE Section 11-27-2e, was spudded and shut down.

Aylward and Shell Petroleum Corp.'s No. 2 Stolle, NW SE SW Section 11-26-2e, had Chat at 2,839-40 feet, total depth, and pumped 20 bbls. of oil per hour on its first production test.

Sumner County

E. B. Shawver has a 278-bbl. potential producer in No. 3 Frankum, NE SE NE Section 32-31-1w, in Sumner County, from Chat at 3,655-93 feet. It had been acidized and had produced 487 bbls. the first 24 hours, but it was not the potential test. It was completed.

Shell Petroleum Corp.'s No. 2 Barnes, 220 feet north and 1,072 feet east of SW cor. Section 14-32-2e, an old well deepened from 2,112 feet to Conglomerate at 2,871-2,905 feet, total depth pumped 1,288 bbls. in 24 hours and was completed.

Champlin Refining Co.'s No. 1-B Latta, SW SE NW Section 9-30-2w, was delayed by a fishing job for casing. It is an old well intended to be deepened from 3,057 feet. Sinclair Prairie Oil Co. was building rotary rig for No. 3 Kamis, SW NW SW Section 28-31-1w. Amerada Petroleum Corp. and Sunray Oil Co.'s No. 9 Gassoway, SW SE SW Section 14-32-2e, is to deepen from 1,633 feet. It is an old well. Shell Petroleum Corp. was rigging up rotary to deepen No. 1 Miller, 220 feet from north and 178 feet from west lines of NE quarter Section 23-32-2e, old total depth 2,109 feet.

Butler County

Phillips Petroleum Co. and others completed No. 1 Moore, NW NW SE Section 1-25-3, Butler County. It is a 35-bbl. well at 2,689-2,710 feet, Mississippi lime.

C. L. Siebel had Kansas City lime at 1,866-1,975 feet in No. 1 Taylor, SE NW NW Section 29-29-4, and was shut down.

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Southwest Texas District

DISCOVERY IN WEBB COUNTY; PEARSALL EXTENDED SOUTH

By STAFF CORRESPONDENT

HOUSTON, Tex., July 2.—The discovery of a gas field in Webb County, a possible half mile south extension to the Pearsall area in Frio County and the apparent discovery of a gas field in Goliad County, were the featured developments in the Southwest Texas district the past week.

Mills Bennett Production Co.'s No. 1 Lopez, 10 miles north of Bruni Field in Webb County, near the Duval County line in Survey 73, encountered sand from 2,121-26 feet that tested 25,000,000 feet of dry gas on a drill stem test, and was cored to 2,139-44 feet, total depth. Seven-inch casing was cemented at 2,139 feet and after the last 5 feet of casing had been perforated, it was brought in through a one-quarter inch choke, making an estimated 25,000,000 feet of gas and a slight spray of oil with the tubing pressure 760 pounds. Before the test was completed it had the appearance of making an oil well as it tested 116 feet of pipe line oil on a drill stem test the past week.

The test is on a block of 6,000 acres, controlled by G. G. Mortimer who gave the company approximately 1,800 acres to drill the test. The company has made location for its second test and is moving in material southeast of the discovery well and 2,310 feet from the west line and 1,900 feet from the south line of Section 73.

Pearsall Field

One-half mile south of production in the Pearsall Field, Frio County, Amerada Petroleum Corp.'s No. 1 Kothman, cored sand showing oil from 3,967-61 feet, total depth, and has cemented 7-inch casing at the top of the sand without making a drill stem test. Location is on a 360-acre tract in the B. L. Crouch Survey. Same company's No. 1 Smith, approximately 3 miles southwest of production, which failed to find production in the Navarro sand, is drilling in chalk below 5,500 feet and is scheduled to be drilled to the Edwards lime. It is in the Joseph V. Mason Survey. In the same area, but a mile south of the town of Pearsall, Midland Oil Co.'s No. 1 San Antonio Joint Stock Land Bank in Section 2, B.S.&F. Survey, is now waiting on cement to set after cementing surface casing.

San Patricio County

In the New Plymouth Field, San Patricio County, two tests have reached the producing horizon and are to be tested this week. Plymouth Oil Co.'s No. 4-C Welder, an east offset to Heep Oil Corp.'s No. 1-E Welder, cored sand showing oil from 5,623-39 feet and is reported to have shown for a large producer on a drill stem test. Casing is being cemented preparatory to testing. In Heep Oil Corp.'s No. 2-E Welder, in the R. Montgomery Survey, sand showing oil was cored from 5,581-97 feet, total depth, and casing has been cemented at the top of the sand. These wells are in the lower producing horizon and if productive, will make six producers in the field, four of which belong to Plymouth Oil Co. and two to Heep Oil Corp.

Two other tests are drilling below 4,500 feet and should reach the pay later in the week. Plymouth Oil Co.'s No. 5-C Welder in Section 45, is drilling below 5,300 feet and Heep Oil Corp.'s No. 3-E Welder in Section 46, Robert Montgomery Survey, is drilling below 4,600 feet. There are six other tests rigged up preparing to spud.

Goliad County

Ten miles south of Goliad in the southwestern part of Goliad County, Keystone Royalty Co.'s No. 1 Wood cored sand from 5,966-61 feet, total depth, and it attempted to blow out while the operators were coming out of the hole, causing the drill stem to stick and the operators are now fishing. The gas was reported to have been dry with no show of oil. The test is to be drilled to the Cockfield sand expected around 6,500 feet.

Bee County

In the Caesar Field, Bee County, two producers were reported. Luling Oil & Gas Co.'s No. 7 Ruhman in the William F. Hodge Survey, cored sand from 3,054-67 feet where it was completed for an initial production of 225 bbls. per day. In the F. Lewis Survey, McAlester Fuel Co.'s No. 2 W. J. Vaughn, cored the Pettus sand from 3,040-51 feet and was completed for an initial production of 95 bbls. per day on a gas jet.

Dirks Field

Humble Oil & Refining Co.'s No. 1 Shellenberger in the NE quarter of Section 7 of the Dirks Field, Bee County, topped the Pettus sand at 3,878 feet and on a drill stem test showed 460 feet of oil in 15 minutes and 45 pounds of pressure through a one-quarter inch choke.

Duval County

Southwest of the discovery well in the Seven Sisters Field, Duval County, Dulce Oil Co. and Henderson and Harvey's No. 1 Serna tested salt water with a small amount of oil and gas in sand from 2,509-15 feet. Humble Oil & Refining Co.'s No. 1 Smith tested dry in sand from 2,112-24 feet and is drilling ahead below 2,125 feet.

Hidalgo County

On the extreme eastern side of the Sam Fordyce Field, Hidalgo County, D. D. Oil Co. and Harrison's No. 2 George is plugging back to 2,700 feet to test through perforated casing after it had tested salt water in a deeper sand at 2,933 feet. Location is in Porcion 41. One of the most important acreage deals in some time was made during the week when King-Wood Oil Co. sold a half interest in 152½ acres scrattered through the field to Ralph E. Fair and associates for a cash consideration of $100,000 and a drilling obligation to further develop the acreage to the extent of at least six wells. The first location is expected to be made near the discovery well.

Dimmit County

Northwest of Carrizo Springs in Dimmit County, Diamond Half Oil Co. is scheduled to get under way on No. 1 Eardley, a wildcat on a 201.5-acre tract, 3,000 feet from the southwest line and 400 feet from the northwest line of the R. G. Morgandale Survey No. 6. It is to be drilled to the Navarro sand which produces in the Pearsall Field in Frio County. Humble Oil & Refining Co., Magnolia Petroleum Co. and Shell Petroleum County are reported to have purchased acreage spreads.

Driscoll Field

The Driscoll Field in Duval County was extended a half mile northwest by completion of Continental Oil Co.'s No. 5-A Driscoll in sand cored from 2,896-2,905 feet, total depth, for an initial production of 150 bbls. per day. This is the fifth producer to be completed in the field by Continental Oil Co., three producers and the others gas wells.

Medina County

Near the Taylor Field, Medina County, O. L. Gates and H. W. Hill's No. 1 Odem, in the H. Castro Survey, had 5 feet of sand at 154-59 feet and another 5-foot core from 190-95 feet is reported to have carried some saturation. It is drilling below 283 feet. In the same area Joe Dupree's No. 1 Batet, in the J. Ball Survey, is reported swabbing around 410 feet.

Nueces County

In the Saxet Field, Nueces County, J. K. Culton's No. 2 Sagarini, on the northwest edge of the field, encountered sand from 4,725-32 feet, and is reported completed for a good well, although no production gauge has been reported. The sand from which it is producing is approximately 70 feet shallower than the regular producing horizon. In the same area, interest is centered on Magnolia Petroleum Co.'s No. 1 Baldwin, a semi-wildcat 5 miles south of Clarkwood, shut down at 3,238 feet after reporting a showing of oil and gas encountered from 3,231 feet to total depth.

Clyde Robinson, petroleum engineer for the Gulf Production Co., Fort Worth. Dr. E. N. Kemler, in the engineering division of the Gulf Research and Development Corporation, Pittsburgh

Michigan Field Report

By
PAUL A. ELLIOTT

MICHIGAN PRODUCERS DECIDE TO SEEK RIGID STATE CONTROL

MUSKEGON, Mich., July 1.—Simultaneously with unanimous approval of a plan for voluntary proration supplanting Federal control at a mass meeting of producers, the Oil and Gas Association of Michigan announced its decision to seek rigid state control of drilling and production to meet impending danger of overproduction seen in steadily rising output and a record wildcat drilling program.

There were no dissenters at the meeting called by officials of the association when the vote was taken to continue the Michigan Producers Proration Committee under a voluntary agreement closely following the procedure carried out under the NRA oil code prior to the recent supreme court decisions.

J. W. Leonard, Jr., who opened the Crystal Field, March 28, and holds large acreage in this new central Michigan area, was added to the proration committee with James C. Graves, of Saginaw, to continue as chairman, George B. Talbot, of Mt. Pleasant, as treasurer: E. F. Claggett, of Saginaw, as secretary; Howard D. Atha, of Mt. Pleasant, head of the association, as secretary, and C. L. Maguire, Mt. Pleasant; George H. Fink, Mt. Pleasant, and W. A. Hower, Muskegon, as the other members.

A. J. Weideman, who has been assistant proration umpire, will continue to gauge the wells and compile production data as full time umpire. O. H. White, umpire, will become superintendent of the Porter Brine Disposal Co., a cooperative non-profit association.

The assessment for support of the new program was reduced from one-eighth to one thirty-second of a cent a barrel and the office merged with the association headquarters eliminating the services of Mrs. Frances Primesburg, a clerk.

The committee named by President Atha to confer with a legislative committee recently appointed by Speaker George Schroeder, of the State House of Representatives, for consideration of a state oil control bill will be headed by Dr. Virgil R. D. Kirkham, of Saginaw. Other members of the producers committee include Isaiah Leebove, of the Mammoth Petroleum Corp., Clare; F. A. Calvert, of the Pure Oil Co.; R. B. Hardwicke, of the Sun Oil Co., and Chairman Graves of the proration committee. They will draft a new bill to be introduced at the next session of the legislature.

State Senator Joseph A. Baldwin, chairman of a special legislative committee conducting an investigation of petroleum marketing conditions in Michigan, last week indicated the possibility of recommending appointment of a state petroleum commission to control the industry on a public utility basis.

"The people are as dependent upon their motor cars as on electric lights, gas or telephones," he said.

F. R. Frye, petroleum engineer with the geological survey division of the state conservation department, also indicated officials of this division favor state control.

"The operators can maintain proration without the NRA if they want to," he said. "They say they want to but there is considerable difference between saying so and actually doing it. To us it appears that state control by law would be the better way out for you can then have impartial action on any disputes."

Although there were several discouraging developments in the Crystal Field last week, daily crude production for the second week in succession reached a new all-time high at 43,444 bbls. a day, an increase of 525 bbls. over the previous week's record of 42,919 bbls. a day.

Montcalm County showed an increase of 670 bbls. daily, Beaverton increased 55 bbls. and Ogemaw climbed 67 bbls. Decreases of 216 bbls. in Porter Township, 16 bbls. in the Chippewa-Greendale Field and 35 bbls. in the Vernon-Leaton area slightly offset the advances. Muskegon, Saginaw-Lapeer and the Oceana Field remained the same.

Crystal Area

Hopes of a major southeast extension of the Crystal area into the adjoining New Haven and Newark Townships, Gratiot County, were dashed when water was encountered in three semi-wildcat tests.

T. F. Caldwell, Inc 's No. 1 Federal Land Bank, NW SW SW Section 18-10n-4w, New Haven Township, struck water 43 feet in the Dundee at 3,216 feet and probably will be plugged and abandoned despite a considerable showing of gas.

Rex Oil & Gas Co.'s No. 1 Morse & Biddle, NW SW SW Section 20, same township, had a show of 57 feet of oil in the hole at 3,182 feet but was shut down at 3,226 feet when a baller an hour of water was struck. Operators are undecided whether to plug back and treat with acid for the show or to abandon the hole.

After striking water at 3,185 feet in the Dundee formation, the Newark Gas & Oil Syndicate's No. 1 George Reck, NE SE NE Section 29-10n-3w, Newark Township, encountered a show of oil at 3,187 feet, 2 feet deeper. Since the hole was partially filled with about 2,000 feet of water, it was impossible to determine the value of the show. Casing was to be pulled, the hole reamed and the casing reset for further testing this week.

A leak in the casing in T. F. Caldwell, Inc.'s No. 1 W. W. Robbins, NE NE NE Section 3-10n-5w, Crystal Township, Montcalm County, and a mistake in measurements in the Gordon Oil Co.'s No. 1 Frost Heirs, SE SE SW, same section, delayed two important completions now anticipated this week.

The Robbins test filled up with water at 3,191 feet but water proved to be coming in from the Traverse between two strings of casing. Casing was recemented and the well to be redrilled into the Dundee over the week-end.

In the Frost well casing was set at 3,155 or 20 feet above a depth of 3,175, at which it was believed cased because of a discrepancy of 20 feet between cable and steel line measurements. It was shut down temporarily at 3,200 feet when a light show of oil and gas was encountered. It also was to be drilled in over the week-end.

J. W. Leonard, Jr., Trustee's No. 2 C. R. West, SE SE SW, Section 2, Crystal Township, also topped the Dundee lime after setting casing at 3,174 feet and was to be drilled in at once.

T. F. Caldwell's No. 1 M. L. Johnson, NE NW NE Section 14, same township, was being plugged and abandoned at 3,209 feet after filling up with water, after shows at 3,197 and 3,204 feet, the former at the Dundee top.

Production of the Burnstein Oil & Gas Corp.'s No. 1 Joseph Keel, SW SE SE Section 35-11n-5w, Ferris Township, Montcalm County, the most encouraging recent development in the Crystal area, was increased to about 300 bbls. a day by deepening from 3,194 feet at which it was estimated good for 20 bbls. an hour, the previous week to 3,198, total depth. Dundee was topped at 3,182 feet.

About half a dozen other tests, including several in Crystal Township, one in New Haven and one in Ferris Township also were expected to reach the Dundee this week. About 25 tests were drilling in this newest central Michigan area where seven producing wells ranging from 60 to 5,000 bbls. a day initial already have been completed and more than 85 locations staked out.

Other completions of the past week resulted in success in all leading pay sands yet discovered in Michigan including Berea, Traverse and Dundee oil and Michigan Stray gas in commercial quantities.

Home-Montcalm

Daily Crude Oil Co. completed a 130-bbl. upper Traverse oil well in its No. 2 H. J. Hansen, SE NE NW Section 10-12n-6w, Home Township, Montcalm County at 3,102 feet. Pay was topped at 3,093 feet and the sand treated with acid. It was the best completion in the Home Township pool in several months.

C. C. Goff and Frank Rabuck's No. 1 Frank and Clara Williams, NE SW NE Section 14-12n-7w, Belvidere Township, same county, is expected to plug and abandon after failure in the Michigan Stray gas sands.

Mecosta County

Three Michigan Stray gas wells adding about 13,500,000 feet of daily open flow were completed in the Aus-

J. H. Poulter, father, Oklahoma City operator, and George Poulter, son, operator, San Angelo, Texas

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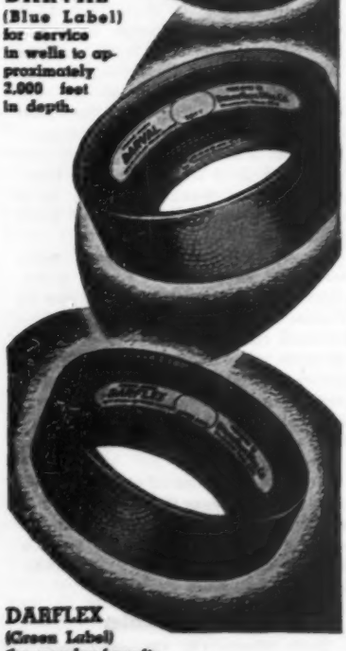

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tin Township, Mecosta County Field.

Largest of the new wells was the Hal-Be-Oyle & Gas Corp.'s No. 2 Taggart Brothers, Inc., C NE NE NE Section 10-14n-8w, which had an open flow of 9,300,000 feet a day at 1,364 feet after topping the formation at 1,359 feet. Same operators' No. 1 Taggart Brothers well, drilled into the pay for an open flow of 1,180,000 cubic feet the previous week, was increased to 3,000,000 cubic feet a day by deepening to 1,468 feet, or six feet in the pay.

McCosta Development Co.'s No. 1

Mecosta Development Co.'s No. 1 George G. and Mabel Totten, C NW NW Section 11, same township, was gauged at 1,100,000 feet daily when drilled five feet in from a top of 1,392 to 1,397 feet.

Jasmid Oil Corp. is plugging back to an estimated flow of more than 1,000,000 feet a day after drilling into water at 1,175 feet in its No. 1 Coopersville State Bank, C S½ Section 22-13n-10w, Aetna Township, Mecosta County. The show was encountered in the Michigan Stray from 1,167 to 1,172 feet.

Lakeside Gas & Oil Syndicate's No. 1 Percy Thomas, C SE NE Section 22-15n-8w, Martiny Township, same county, has not yet been abandoned after striking water in the Michigan Stray but is shut down at about 1,400 feet.

Midland County

Pure Oil Co.'s No. 4 Bond-Risley, NW NE NE Section 20-13n-1w, Porter Township, was completed as the best producer in this district in several months, making about 1,000 bbls. estimated in the Dundee.

The same company's No. 15 Mina Narmore, SW SW NE Section 16, also was completed in the Dundee at 3,382 feet with an estimated initial of 30 bbls. an hour, or more than 600 bbls. a day. Production of Pure's No. 3 Howland, drilled into the Dundee pay sands in Section 23, the previous week, also was increased from 130 bbls. natural to 350 bbls. with acid treatment.

Goll, Graves & Mechling's No. 1 Oviatt Estate, SW SE SW Section 24-16n-2e, Mills Township, a Midland County wildcat, also was completed as a "duster" after being drilled to 3,717 feet after topping the Dundee at 3,205 feet and having light shows 97 feet and 221 feet in. It will be plugged and abandoned.

Several Porter tests were nearing completion in the Dundee.

Ogemaw County

Melling Oil & Gas Co.'s No. 3 State of Michigan, NE NE NW Section 6-21n-3e, Mills Township, was completed at 2,608 feet with a natural production of 35 bbls. a day probably to be increased with acid treatment. Dundee was topped at 2,446 feet.

Thompson Brothers' new wildcat in Richland Township, drilled into the pay sands previously, made about 25 bbls. after acid treatment. It is located in Section 31-21n-4e. Dundee was topped at 2,447 feet and the hole drilled to 2,500 feet.

Isabella County

Gordon Oil Co.'s No. 1 Edgar O. Graham, SW NE SW Section 28-15n-3w, Denver Township, Isabella County, was dry in the Dundee striking water at 3,645 feet after topping the limestone at 3,602 feet. It will limit future development in this area to less than a mile in width.

W. J. Bernier's No. 1 William Robinson, C NW NW Section 1-14-6w, Broomfield Township, made about 500,000 feet of gas in the Michigan Stray sand.

Wittmer Oil Co.'s No. 1 Curtis, C N NW SE Section 2-15n-4w, Isabella Township, had about 300 feet of oil in the casing indicating a possible northwest extension to the Rosebush area.

Saginaw County

Smith Petroleum Co.'s No. 1 Totten, NE NE SW Section 20-10n-6e, Birch Run Township, Saginaw County, was brought in with an initial flow of about 15 bbls. a day in the Berea sands. It is the fourth successful completion by the company in this section this year.

Western Michigan

The most interesting test in western Michigan last week was the West Ashland Oil & Development Co.'s No. 1 Herman McKinley, NW SW NW Section 8-11n-13w, Ashland Township, Newaygo County, which was being drilled into the upper Traverse Saturday by the Muskegon Development Co., which has an interest in the well.

The only West Michigan completion was the Lima Oil Corp.'s No. 1 W. R. Angell and Harry C. Spillman, NE SW NE Section 22-10n-16w, Muskegon Township, which was completed as a dry hole in the Dundee at a total depth of 2,142 feet. It had a light show of gas in the lower Traverse at 1,932 feet and topped the Dundee at 2,062 feet on a location in the southeast corner of the old Muskegon Field.

Lowell Development Co.'s No. 1 Anton Kallinger, C N N NE Section 35-7n-9w, Vergennes Township, Kent County, was preparing to test the Dundee after running into 2 or 3 feet of solid paraffin in the lower Traverse between 2,580-85 feet, believed to be an old deposit of oil solidified for lack of closure. There is an interesting irregularity in all lower formations in this area. Dundee should be encountered within another 100 feet of drilling. Water was struck at 2,585 feet.

One other test was drilling in Newaygo County, Charles W. Teater's No. 1 H. W. Sawyer, NW NE SW Section 5-12n-12w, Brooks Township, not yet in the possible pay formations in a section of the State where several other wildcats are projected this summer.

New Locations

For the first time in more than two months, no permits were issued during the week of June 12 to 19 for new locations in the Crystal area. Eight permits were issued by the State Conservation Department for locations in eight townships of four counties, Midland, Isabella, Montcalm, and Mecosta.

Pure Oil Co. took out two permits for Midland County, one the No. 6 Floyd Younglove, SE SW SW Section 17-13n-1w, Porter Township, and the other the No. 1 Emma O. Read, C S SW SW Section 1-13n-2w, Jasper Township. McClanahan Oil Co.'s No. 2 Maria T. Sweeney, NW NW NE Section 33-15n-3w, Denver Township, Isabella County, was the other new location in the older Mount Pleasant areas.

Michigan Exploration Co. took out two permits for gas tests in Home and Belvidere Townships, Montcalm County, as follows: No. 1 Francis C. Withey and Alfred T. Hansen, C NW NW Section 6-12n-6w, Home Township, and No. 2 Byron Yeomans, C NE NW Section 2-12n-7w, Belvidere Township. Gordon Oil Co. was issued a permit for its No. 1-B Paulson, NW SW NW Section 24-12n-9w, Winfield Township, Montcalm County.

The other two permits were for gas tests in Mecosta County, the one Larson & Flynn's No. 1 Swanson, C NW SE Section 11-13n-10w, Aetna Town-

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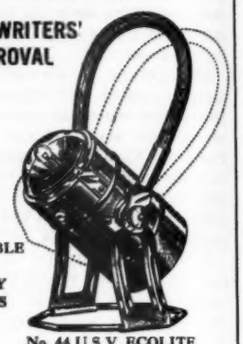

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Latest Bulletin No. 1134 Gladly Mailed on Request.

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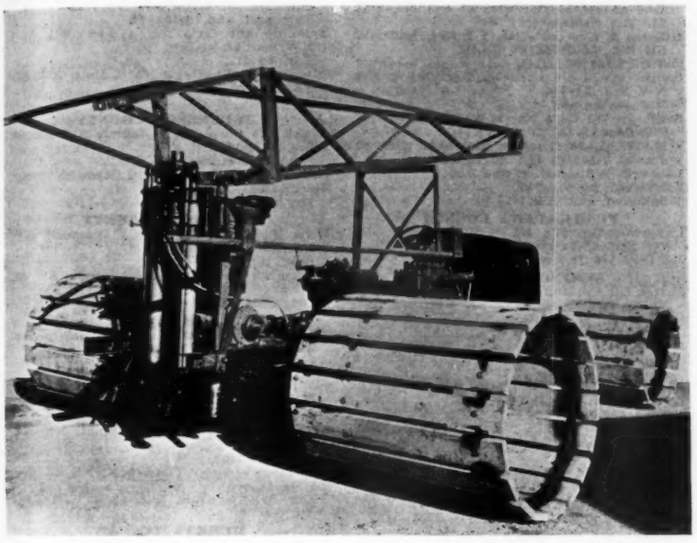
EVERSTICK ANCHORS . . .

ship, a correction, and the other Hal-Be-Oyle and Gas Co.'s No. 2 Taggart Brothers, C NE NE Section 10-14n-9w, Austin Township, already nearing completion.

Michigan Gas & Oil Co. also moved in a rig for a test on the Dean lease in Section 31, Arcada Township, Gratiot County, and it was reported a rig has been moved in for another test in Section 3 of the same township.

Refineries Petroleum Corp. also has moved in for a gas test in C NW NW Section 27, Millbrook Township, Mecosta County, and Michigan Exploration Co. is reported planning an oil test in Section 3, Belvidere Township. J. V. Wicklund, of Clare, has been leasing considerable acreage in Ronald Township, Ionia County, and Bushnell Township, Montcalm County, where he is planning to drill soon.

Machine to Aid Seismograph Operations in Swamps



The machine shown in the accompanying illustration, which looks like a cross between a devil-horse and an armored tank, is designed to make life easy for the man doing seismograph exploratory work in the vast marsh territories of Texas and Louisiana. It is a semi-amphibious machine in that, while primarily designed for use in swamps and marshes, it is quickly convertible to and equally efficient for use on land. The design is new, although several machines have been in service for months in southern Louisiana in seismograph exploration.

The chassis is that of the standard short wheelbase Ford V-8 truck. It is fitted with an auxiliary transmission for swamp use, gearing the speed down to a maximum of about 3 miles per hour. For use on land the auxiliary transmission is cut out of service by the shifting of a lever, and the standard Ford truck road speeds are then available.

Conversion to swamp and marsh use consists only in removing the rubber-tired wheels with which the truck is equipped at the factory, and replacing them with the "swamp buggy" wheels, which bolt onto the same lug bolts and use the same lug nuts as the rubber-tired wheels. Conversion from land to swamp or marsh use is a matter of some 15 minutes' time only. The "swamp buggy" wheels are built up of structural shapes designed from an engineering standpoint to support the load involved, as well as to carry the stresses required to drive the outfit through the submerged marsh.

The drilling unit consists of a No. 7 Sullivan core drill, having a 36-inch hydraulic feed, the twin cylinders of which are operated on a closed oil system with separate oil pump. The unit handles size "A" rods (1 41/64-inch o.d.) and is of ample capacity for the depth required in seismograph exploration work, either in the marshes or on land.

Two types of mud circulating pumps are used; these being either a 3¼x4 duplex power pump, or a 75-gallon per minute rotary pump. The rotary pump is preferred for marsh and swamp service, due to its lightness. In either case the pump is controlled by a friction clutch, and is driven from a power take-off through silent chain drive.

All units on the rig are operated by the Ford motor itself, which is fitted with special head, cooling fan and radiator for the service involved.

The mast is easily erected, is carefully designed from light structural steel, and is of ample strength for the loads to be placed upon it.

It is customary in marsh or swamp exploration work to equip the instrument truck with the same type of auxiliary transmission and with the same type of "swamp buggy" wheels, so that this unit may also be as mobile as the shothole drill itself.

These units have been designed and built by the Tennant Co., Esperson Building, Houston, Tex.

CANADIAN GAS PRODUCTION

OTTAWA, Canada, July 1.—Natural gas production from all Canadian fields in April amounted to 2,077,437,000 feet as against 2,426,943,000 in March and 2,177,805,000 in April, 1934. The output in the first four months of 1935 totaled 10,101,056,000 feet or 3.2 per cent below the total or 10,433,419,000 in the corresponding period of 1934.

Mixed (natural and artificial) gas imported into Canada in April totalled 4,816,000 feet worth $3,299 against 8,996,000 feet worth $6,327 in March.

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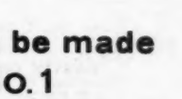
THE constructions illustrated can be life-savers in the absence of threading tools or proper fittings.



Tight joint without threads. Put pipe ends into a collar sawed from oversize pipe and of length equal to two to three times pipe diameter. Pack center with oakum and ends with Smooth-On No. 1. *Tight joint with oversize fitting.* Pack Smooth-On No. 1 into the annular space between threads.

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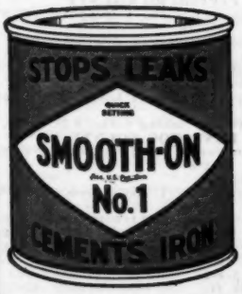

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WILDCAT OPERATIONS

Oklahoma Wildcats

Week Ending June 29

NORTHERN OKLAHOMA

BECKHAM COUNTY

E. L. Martin et al's No. 1 Robertson, C NE SE Sec. 1-9-22w.
Spudded and S.D.

Star Oil Co.'s No. 1 Blair, C NW SE Sec. 32-9-26w.
Cellar and pits dug (3,200-ft. test).

BLAINE COUNTY

Earl Ingraham et al's No. 1 Masters, SW NW NW Sec. 27-16-11w.
S.D. 1,240 ft.

CADDO COUNTY

Denver Prod. & Ref. Co.'s No. 1 Sah-Can, C SE SE Sec. 33-10-10w.
Drlg. 7,290 ft.

H. W. Lee et al's No. 1 Stacey Ferrell, SW NE NE Sec. 3-6-13w; (2,000-ft. test).
T.D. 2,280 ft.; C.O.

F. A. Turner et al's No 1 Spain, NE NE SW Sec. 1-5-11w.
Spudded.

CANADIAN COUNTY

R. Carl Larkin's No. 1 Brobine, NW NW NE Sec. 33-13-5w.
T.D. 7,740 ft.; top of Mississippi lime 7,710 ft.

CLEVELAND COUNTY

Asa Lee Mayes, Inc.'s No. 1 Faut, SW SW NE Sec. 27-10-2w.
Cellar and pits.

Sinclair Prairie et al's No. 1 Franklin, SE NW SE Sec. 21-10-2w.
Top second Wilcox 7,269 ft.; 150,000,000 ft. wet gas; 1.34 gals. gasoline per 1,000 ft. of gas; gasoline .883 gravity; comp.

COAL COUNTY

Amerada Pet. Corp. and Stanolind Oil & Gas Co.'s No. 1 Traveler' Life, SW NW SE Sec. 28-1s-9e.
Drlg. 2,405 ft. in Atoka.

Carter Oil Co. et al's No. 1 Thompson, C S½ NE NW Sec. 34-2-9.
Cored 3,111-54 ft.

COMANCHE COUNTY

R. B. Carson's No. 1 Barber, NE NE SE Sec. 9-1n-11w.
S.D. 500 ft.

Oscar Jones' No. 1-A Sheets, NE SW Sec. 26-2-10w.
Machine.

P. F. Stevens' No. 1 Green, SE SW Sec. 2-1-13w.
T.D. 1,735 ft.

GARVIN COUNTY

Charles Carter and W. S. Key, Inc.'s No. 1 Wood, C NW SW Sec. 5-4-3e.
S.D. 2,495 ft.

GRANT COUNTY

Helmerich & Payne's No. 1 Crouse, C NE SW Sec. 29-25-8w.
Green shale 6,347-61 ft.; drlg. 6,360 ft.

Wentz Oil Corp. et al's No. 1 Wirtz (Community), SE SE NW Sec. 22-28-4w.
Location.

GREER COUNTY

Gled Oil Co.'s No. 1 Simpson, NE cor. Sec. 11-5-22w.
Drlg. 500 ft.

Gled Oil Co.'s No. 1 Leeker, SE cor. Sec. 6-4-21w.
Drlg. 1,920 ft.

Masaad & Caudle's No. 1 Crosnoe, SE SE SW Sec. 14-3-25w.
Rig.

Morgan et al's No. 1 Carder, C SW SE Sec. 19-4-22w.
T.D. 3,220 ft.; fishing.

H. N. Payne et al's No. 1 Tressell, NW cor. Sec. 1-7-22w.
T.D. 1,785 ft.; U.R. 8-in. csg.; to deepen.
Cleaning out.

HARMON COUNTY

J. J. Mathis' No. 1 Keith, NE NW SW Sec. 12-5-26w.
Machine on ground.

HUGHES COUNTY

Caprock Oil Co.'s No. 1 Parks, SW SW SE Sec. 34-7-8.
Rig.

Dandridge & Crane's No. 1 Mead, NW NW NE Sec. 17-5-9.
S.D. 1,710 ft.

Freeman et al's No. 1 Kite, NW NW NE Sec. 4-4-10.
Top sand 700 ft.; show oil; S.D.

Texas Co.'s No. 1 Keaton, NW SW Sec. 4-6-10.
Wilcox 4,062-79 ft.; dry; P.B. to 4,030 ft.; drilled plug; 1,000,000 ft. of gas; show of oil and wtr.; testing.

KAY COUNTY

Bay Oil Co.'s No. 1 Holden, SW SW SE Sec. 14-28-3.
8-in. 2,945 ft.; drlg. plugs.

Lewis Prod. Co.'s No. 1 Summers, SW cor. SE NW Sec. 17-27-2.
Drlg. 815 ft.

J. T. Lindsay's No. 1 Waggoner, NW NW NE Sec. 2-27-1.
T.D. 2,393 ft.

Marshall, Haddock et al's No. 1 Hermes, SW SW NW Sec. 4-26-4.
Drlg. new hole 285 ft.

KIOWA COUNTY

Rajah Oil Co.'s No. 2 Stone, C SE NE Sec. 34-7-17w.
Gas 933-34 ft.; oil 944-52 ft.; recmtd. csg.; T.D. 1,040 ft.; pulling 8¾-in. csg.

LEFLORE COUNTY

McCraw et al's No. 1 Tidwell, C NW SE Sec. 17-2-22.
Spudding.

LINCOLN COUNTY

Carter Oil Co. et al's No. 1 McFarland C-33, SW SW NE Sec. 18-13-4.
Wilcox sands at 5,279 ft. and 5,335 ft.; T.D. 5,345 ft.; will make Schlumberger test.

Chester L. Carlock's No. 1 Young, C N½ NW NW Sec. 23-15-5.
Spudded and S.D.

Chas. Ralph's No. 1 Young, C N½ NW NW Sec. 23-15-5.
Spudded and S.D.

Stanolind O. & G. Co. and Amerada Pet. Corp.'s No. 1 Connelly, SE NE SE Sec. 23-14-7.
Moving in tools.

Stanolind O. & G. Co. and Amerada Pet. Corp.'s No. 1 Cavanaugh, SE NE Sec. 31-15-5.
T.D. 3,661 ft.; R.U. to drill to Wilcox sand.

Texas Co.'s No. 1 Niccum, SE SW NW Sec. 28-14-5.
Mayes 4,290 ft.; Sycamore 4,505 ft.; drlg. 4,575 ft.

Wilcox O. & G. Co.'s No. 1 Connelly, SE NE SE Sec. 23-14-2e.
Location.

LOGAN COUNTY

Mid-Continent Pet. Corp. et al's No. 1 Nunn, SE SE NW Sec. 25-15-1.
Dry and abd. 5,477 ft.

Sinclair Prairie and Slick-Urschel's No. 1 Koatsch, SW cor. Sec. 23-15-3w.
Second Wilcox 6,322 ft.; T.D. 6,341 ft.; cored 6,341-43 ft.; 4,000 ft. salt water in hole; moving in tools; to whipstock.

Slick-Urschel et al's No. 1 Pennington, C SW NE Sec. 10-16-1w.
Simpson dolomite 5,534 ft.; Wilcox 5,581 ft.; no show; lost circulation at 5,587 ft.

Stanolind O. & G. Co., Amerada Pet. Corp. and Eason O. & R. Co.'s No. 1 Grogg, SW SW NE Sec. 20-18-4w.
Location.

Stanolind O. & G. Co. et al's No. 1 Nunn, SE NW Sec. 25-15-1.
Drlg. 2,597 ft.

MAJOR COUNTY

Indian Territory Illuminating Oil Co. and Continental Oil Co.'s No. 1 Fairview, C E½ SW SE Sec. 32-22-14w.
Drlg. 4,526 ft.

NOBLE COUNTY

Marathon Oil Co.'s No. 1 Gilbert, NE cor. Sec. 24-22-2.
Wilcox sand 4,449 ft.; T.D. 4,480 ft.; flowed 1,793 bbls. in 7 days; may deepen.

OKFUSKEE COUNTY

Amerada Pet. Corp.'s No. 1 Jaynes, NW NW SW Sec. 20-10-10.
Hunton 3,690 ft.; 10,000,000 ft. of gas at 3,704 ft.; Wilcox sand 3,932 ft.; T.D. 4,625 ft.; 275 ft. wtr. in hole; P.B. to 3,882 ft.; P.B. to 2,953 ft.

Sunray Oil Co.'s No. 1 Culla, NE SW NE Sec. 13-12-8.
Rig.

OKLAHOMA COUNTY

Gypsy Oil Co. and Indian Territory Illuminating Oil Co.'s No. 1 Salisbury, NW NE NE Sec. 13-14-4w.
Drlg. 4,387 ft.

Sinclair Prairie O. & G. Co.'s No. 1 Corbett, NE NW NE Sec. 17-13-3w.
No Hunton lime; drlg. 6,605 ft.

Slick-Urschel Oil Co. et al's No. 1 Owen, SE cor. Sec. 19-13-3w.
Simpson 6,558 ft.; T.D. 6,789 ft.; 465 bbls. oil and 37,300,000 ft. of gas; comp.

OSAGE COUNTY

J. A. Freeberg et al's No. 1, NE cor. SE Sec. 1-25-6.
R.U. machine.

PAWNEE COUNTY

Stanolind O. & G. Co.'s No. 1 Shunatana, NE SW SE Sec. 32-22-3.
Rigging up.

PITTSBURG COUNTY

Choctaw Gas Co.'s No. 1 Bunyard, SE SE NE Sec. 18-7-15.
Drlg. 1,305 ft.

McAllister Pet. Corp. et al's No. 1 Chunn, C SE NW Sec. 29-4-14.
T.D. 1,530 ft.; pipe collapsed; S.D.

P. H. Gray et al's No. 1 Lee, NW SE Sec. 12-5-12.
T.D. 1,210 ft.; fishing tools; S.D.

PONTOTOC COUNTY

E. M. Blanchard's No. 1 Crabtree, NE SE NE Sec. 27-3-6.
S.D. 2,920 ft.

Philip Boyle's No. 1 McCracken, NE NW NW Sec. 31-5-4.
Hole full black oil 2,160 ft.; H.F.W. 2,170 ft.; P.B. to 2,050 ft.; drilled to 2,173 ft.; bailed down; hole full of oil.

Charles E. Carter's No. 1 Wood, NW SW SE Sec. 5-4-3.
S.D. 2,405 ft.

Continental Oil Co.'s No. 1 McCarty, C SW NW Sec. 12-1-7e.
Rig corners in.

Crabb-Craw Oil Co.'s No. 1-A Breco, SE NE SW Sec. 3-4-6.
Sand 1,106-18 ft.; pumped 10 bbls. in 24 hrs.; S.D.

W. A. Delaney et al's No. 1 Fulsome, SE NE Sec. 35-4-6.
Location.

Fleetborn Oil Corp.'s No. 2 Oliver (twin), 280 ft. S and 1,040 ft. E of C Sec. 21-4-5.
Gas at 848-55 ft.; wtr. at 938 ft.; T.D. 950 ft.; fishing.

Gillette & Kroeger's No. 1 Duver, NW NW SE Sec. 36-1n-6e.
T.D. 1,325 ft.; C.O.

Southern Oil Co.'s No. 1 Perry, SW SW NW Sec. 11-4-6.
Rig on ground.

Southern Oil Co.'s No. 1 Walker, NW NW SW Sec. 11-4-6.
H.F.W. 1,530 ft.; P.B. and shot with 20 qts. at 1,162-72 ft.; no test.

Leonard Williams et al's No. 1 Breedon, NW cor. Sec. 6-2-5.
Spudded and S.D.

PUSHMATAHA COUNTY

Ungerman et al's No. 1 Misser, SE SW SW Sec. 35-3s-18e.
T.D. 3,196 ft.; waiting for fuel.

SEMINOLE COUNTY

Carter Oil Co. and Shell Petroleum Corp.'s No. 1 Brown, C W½ SE SW Sec. 23-8-5.
Drlg. 2,323 ft.

L. Cooper's No. 1 Chandler, NE SE SW Sec. 4-5-6.
S.D. 1,780 ft.

Ray Dorris and J. T. Hall's No. 1 Dorris, SE SE SW Sec. 31-10-7.
Sand 520-60 ft.; H.F.W.; S.D. 608 ft.

Van Deventer et al's No. 1-A Bender, NE NE SW Sec. 3-8-8.
Drlg. 2,210 ft.

Verser & Clay et al's No. 1 Thomas, NE S NW Sec. 1-6-6.
T.D. 2,802 ft.; set whipstock at 2,740 ft.

Tom Phillips et al's No. 1 Abbott, NE cor. Sec. 33-8-7.
Viola 4,236 ft.; coring 4,238 ft.

WASHITA COUNTY

Okla-Midwestern Oil Co.'s No. 1 Dock, SW cor. Sec. 21-8-15w.
T.D. 2,430 ft.; lost tools in hole; rig rebuilt; drlg. 2,500 ft. in lime.

L. P. McWhirter's No. 1 fee, SW cor. Sec. 34-8n-19w.
Drlg. 590 ft.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Clark et al's No. 1 Morrison, SE cor. Sec. 32-1-14.
S.D. 200 ft.

Claro et al's No. 1 Bass, 510 ft. N and 1,170 ft. E of C Sec. 9-1s-14e.
Fishing 1,250 ft.

Keaton et al's No. 1-A Roland, NE cor. NW NE NE Sec. 16-3s-10e.
T.D. 850 ft. (corrected); lime at 800-47 ft.; will treat.

R. H. Pierce et al's No. 1 Aetna Life Ins. Co., NW SW NE Sec. 10-1n-13e.
Drlg. 200 ft.

Vierson et al's No. 1 Williams, NE SW NW Sec. 32-2s-10e.
Bldg. rig.

BRYAN COUNTY

Welch Oil Corp.'s No. 1 Collins, NE NE Sec. 19-8s-8e.
T.D. 570 ft.; repairing machine.

J. D. Parks' No. 1 Coats, SE NE SW Sec. 1-5s-8e.
T.D. 325 ft.; S.D.

H. B. Smith et al's No. 1 Henry, C NW NE Sec. 10-8s-7e.
Rig on ground for 4,500-ft. test.

Trio Oil Co.'s No. 1 Gilbert, SW NE SW Sec. 25-8s-7.
U.R. 8¼-in. csg. to 806 ft.

CARTER COUNTY

Bland et al's No. 1 Center, NE cor. Sec. 6-4s-2e.
Drlg. 75 ft.

Waco Turner's No. 1 Munson, NE NW NE Sec. 35-5s-2w.
Drlg. 4,360 ft.; dry sands 4,154-72 ft. and 4,275-90 ft.

Carter Oil Co.'s No. 1 Carter-Williams, SW NE SW Sec. 27-2s-3w (7,000-ft. test).
Drlg. 4,394 ft., in lime.

Paul Robb's No. 1 Burton, 660 ft. N and 185 ft. W of C Sec. 31-1s-2w.
Location.

CHOCTAW COUNTY

E. B. Abernathy's No. 1 Christian, 400 ft. N and 1,245 ft. W of SE cor. Sec. 1-6s-19e.
Machine; S.D. 186 ft.

JACKSON COUNTY

Associated Oil Co.'s No. 1 Harrell, NE NE SE Sec. 13-1s-21w.
S.D. 875 ft.; red beds.

J. G. Buel et al's No. 1 Kizziar, SE SE NE Sec. 2-2n-22w.
Drlg. 2,372 ft., in shale.

Dengall Oil & Gas Co.'s No. 1 Robinson, SE SE NE Sec. 32-1s-22w.
Rigging up.

Gypsy Oil Co.'s No. 1 Boucher, NW SW SW Sec. 32-1-19w.
Drlg. 2,288 ft.; H.F.W.

Gypsy Oil Co.'s No. 1 Stokes, SE NW SW Sec. 11-1-20w.
Lime 1,709-11 ft.; T.D. 1,722 ft.; S.D.

Marshall & Burnham's No. 1 Hess, NE SW NE Sec. 27-1s-20w.
T.D. 1,737 ft.; S.D.

Palo Duro Oil Co.'s No. 1 Ealum, SW SW SE Sec. 16-2-21w.
Drlg. 1,403 ft.

Robberson & Suppes' No. 1 Walker, SW cor. Sec. 19-4-20w.
Dry and abd. 1,600 ft.

Triangle Oil Co.'s No. 1 Fox, E½ W½ NW Sec. 11-3n-20w.
S.D. 60 ft.

Whatley & Whatley's No. 1 Holt, NW SW SE Sec. 20-1n-20w.
S.D. 1,430 ft.

JEFFERSON COUNTY

Gypsy Oil Co.'s No. 1 James, SW SE SE Sec. 30-6s-6w.
S.D. 2,102 ft.

Ben H. Levy et al's No. 1 Ryan, NW cor. Sec. 16-6s-6w.
Dry and abd. 2,261 ft.

JOHNSTON COUNTY

W. A. Delaney et al's No. 1 Diamond, NW NE SE Sec. 5-1s-8.
Drlg. 2,100 ft.

Schermerhorn Oil Co.'s No. 1 Rich, SW SE SE Sec. 35-4s-4e.
Drlg. 626 ft.

LOVE COUNTY

Sinclair Prairie Oil Co.'s No. 1 Stockton, SE SE SW Sec. 26-6s-2w.
Location for 5,000-ft. test.

MARSHALL COUNTY

Jess Cook et al's No. 1 May, NE NW Sec. 12-8s-5.
Drlg. 75 ft.

Norman Smith's No. 1 Chestnut, NE cor. Sec. 23-8s-5e.
R.U. machine.

Paul Robb's No. 1 Vitteloe, C NE SE Sec. 11-5s-4e.
Top Sylvan shale 5,405 ft.; T.D. 5,461 ft.; S.D.

MURRAY COUNTY

Equitable O. & G. Co.'s No. 1 Ferguson, NE NE SW Sec. 36-1s-3.
Drlg. 1,411 ft.

STEPHENS COUNTY

Wm. Angle et al's No. 1 Cooper, NE NW NW Sec. 23-2-7w.
Drlg. 4,160 ft., in shale.

Geo. Pace et al's No. 1 Daily, NE NE NE Sec. 26-1n-8w.
Dry and abd. 3,552 ft.

TILLMAN COUNTY

J. G. Buell et al's No. 1 Haught, SE NE Sec. 22-1-16w.
Drlg. 528 ft.

Rock Island Ref. Co.'s No. 1 Lynch, C SE SW Sec. 35-1s-16w.
S.D. 995 ft. (correction).

Loper et al's No. 1 Conrad, NE cor. Sec. 35-1s-19w.
Drlg. in brown shale 1,660 ft.

Kansas Wildcats

Week Ending June 29

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Southern Drlg. Co. et al's No. 1 Davis, 330 ft. from W and 330 ft. from S lines of NE Sec. 13-34-15w.
T.D. 4,664 ft.; standardizing.

L. H. Wentz' No. 1 Skinner, SE NW NW NE Sec. 29-31-14w.
Drlg. 3,320 ft.

BARTON COUNTY

Lario O. & G. Co. and McCoy's No. 1 Dolochek, NE NW NE Sec. 13-16-12w.
Oswald lime 2,985 ft.; H.F.W. 3,100-10 ft.; U.R. 8-in. csg. to 3,155 ft.

Lario O. & G. Co. et al's No. 1 Nuss, NW SW SW Sec. 11-16-14w.
Oswald 3,155 ft.; shows of oil 3,241-88 ft.; H.F.W. 3,393 ft.; P.B. to 3,391½ ft.; acidized; pumped 80 bbls. oil and 15 bbls. wtr.

Palmer Oil Corp.'s No. 1 Morris, SE NW NE Sec. 6-19-15w.
Rigging up.

C. L. Price et al's No. 1 Ehrlich, NW SE Sec. 10-16-13w.
Drlg. 1,934 ft.

Pryor & Lockhart's No. 1 Herrington, NE NW Sec. 6-16-12w.
U.R. 6-in. csg. to 3,182 ft.

Suppes & Witt's No. 1 Hayes, NW cor. Sec. 7-16-15w.
Drlg. 1,805 ft.

Torrey & Feaster's No. 1 Feist, NE NE SE Sec. 29-18-11w.
Spudded.

BUTLER COUNTY

Hay & Cameron's No. 1 Johnson, NW NW SE Sec. 16-26-6.
Drlg. 3,145 ft.

Polhamus et al's No. 2 Semisch, C S½ NE NE Sec. 5-28-7.
Drlg. 1,520 ft.

Sanford et al's No. 1 Cron, SE SE SE Sec. 1-26-4.
K.C. lime 1,865 ft.; drlg.

Ward McGinnis' No. 1 Jackson, SW NE Sec. 26-25-8.
Drlg. 750 ft.

Western Kansas O. & R. Co.'s No. 1 King

& Marshall, NW NW SW Sec. 11-28-6.
Drlg. 360 ft.

CLAY COUNTY

Seidel Bros.' No. 1 Younken, C S½ SE NW Sec. 21-9-4.
Mississippi 1,772-81 ft.; est. 25 bbls. oil and some wtr.; P.B. to 1,773 ft.

COWLEY COUNTY

Baden, Johnson, Roth & Faurot's No. 1 David, NE SW Sec. 35-30-4.
Drlg. 1,345 ft.
Lloyd, Frost & Study's No. 1 Weathered, SW SE SE Sec. 28-31-3.
Siliceous lime 3,339 ft.; pumped 92 bbls. of oil and 47 bbls. of wtr. in 17 hrs.; H.F.W. 3,405 ft.; P.B. to 3,370 ft.
Wakefield's No. 1 Tharp, SE SE NE Sec. 10-32-3.
Drlg. 915 ft.

DICKINSON COUNTY

Dutch Oil Co.'s No. 1 Phillips, C NE NW Sec. 15-15-1e.
Hunton 2,808 ft.; H.F.W. 2,812 ft.; S.D. 2,880 ft.

ELK COUNTY

Hicks et al's No. 1 Lewis, SW SE SE Sec. 35-31-10.
Oswego lime 1,652-70 ft.; 20-bbl. oil showing; acidized.

ELLIS COUNTY

Joe Aylward's No. 1 Drelling, SE SE SE Sec. 3-14-16w.
Drlg. 2,215 ft.
Heimerich & Payne et al's No. 1 Kuhn, C NE quarter Sec. 16-14-20w.
Drlg. 1,770 ft.
Tom Palmer and Storm King Oil Co.'s No. 1 Ruder, SE SE NW Sec. 17-15-18w.
Drlg. 2,480 ft.
L. Roark et al's No. 1 Bemis, SE SE SE Sec. 16-11-17w.
Moving in material.
Stanolind O. & G. Co.'s No. 1 Penney-Wann, NW SW SE Sec. 12-15-20w.
T.D. 3,254 ft.

ELLSWORTH COUNTY

Lario O. & G. Co.'s No. 1 State, SW SW SW Sec. 29-15s-8w.
S.D. 3,937 ft.
Western Exploration Co.'s No. 1 Wilkins, NW SW NW Sec. 9-17-9w.
Conglomerate 3,240 ft.; drlg. 3,280 ft.

GRAHAM COUNTY

Heimerich & Payne et al's No. 1 Stites, C SW SW Sec. 8-10-22w.
Drlg. 1,650 ft.

GREENWOOD COUNTY

Foster & Schultz's No. 1 Ferguson, C S½ NE SW Sec. 12-26-13.
Drlg. 1,340 ft.

HARPER COUNTY

Kessler, Thier et al's No. 1 Wolfje, SW SW SE Sec. 17-33-6w.
Moving in material.

HARVEY COUNTY

Cameron, Derby Oil Co. and Trees' No. 1 Brainard, SW SE NW Sec. 19-24-2.
Dry and abd. 3,262 ft.
Goering Bros.' No. 1 Brainard, NE SW Sec. 3-23-2w.
Fishing 1,320 ft.
H. H. & S. Oil Co.'s No. 1 Frizzle, NE NE SE Sec. 31-23-2w.
T.D. 172 ft.
Hartman & Blair et al's No. 1 Redinger, NW cor. Sec. 15-24-3w.
T.D. 167 ft.
D. R. Lauck et al's No. 1 Baller, SW cor. Sec. 29-24-1.
Dry and abd. 3,682 ft.
L. W. Prunty et al's No. 1 Davis, NE cor. Sec. 6-22-1w.
Chat 2,922 ft.; drlg. 2,928 ft.
Twin Drlg. Co. et al's (O. J. Connell), No. 1 Ruth, SW cor. Sec. 16-22-2w.
Showing of oil 3,758 ft.; T.D.
Winkler Koch et al's No. 1 Mueller, SE SW NW Sec. 15-23-2w.
U.R. 8-in. csg. to 2,710 ft.

KINGMAN COUNTY

Derby et al's No. 1 Bartholomew, SW NW NW Sec. 8-27-4w.
Drlg. 1,845 ft.
Gypsy Oil Co.'s No. 1 Tonn, SW NW SE Sec. 16-25-4w.
Drlg. 1,280 ft.
Sam Jarvis et al's No. 1 Morrisse, C SE NE Sec. 23-30-10w.
Rig.
Kingman Oil Co.'s No. 1 Wetherall, NE NE SW Sec. 20-28-10w.
K.C. lime 3,628 ft.; show of oil 3,667-72 ft.

McPHERSON COUNTY

Anderson & Kerr et al's No. 1 Lackey, NE SE NW Sec. 13-21-6w.
Drlg. 3,318 ft.
Hollow, Toews & Hinkle's No. 1 Aschman, NW NW SE Sec. 8-21-4w.
Rigged up.
Shell Pet. Corp.'s No. 1 Wenger, NE cor. Sec. 2-20-1w.
Viola 3,356-64 ft.; T.D.; swbd. 255 bbls. in 10 hrs.; 50% wtr.; acidized; potential production 100 bbls. oil, 620 bbls. of wtr.; P.B. to 3,359 ft.; pumped 80 bbls. of oil and 210 bbls. of wtr. in 7 hrs.; S.D. for pipe line.

OSAGE COUNTY

Jim Edwards' No. 1 Detrick, C NW SE Sec. 21-14-15.
Show oil and gas 783-800 ft.; T.D. 800 ft.

RENO COUNTY

Allison & Fitzwilliams' No. 1 Dukelow, NE NE NE Sec. 11-22-6w.
Rigging up.
Gypsy Oil Co.'s No. 1 Tonn, SW NW SE Sec. 16-25-4w.
Viola lime 4,016 ft.; running 6-in. csg. to 4,013¾ ft.
Haynes Bros.' No. 1 Mueller, SE SE NW Sec. 30-24-4w.
Run 7-in. csg. to 3,365 ft.; standardising.
L. A. Mylius et al's No. 1 Sprowl, NE NW NE Sec. 1-24-5w.
Hunton 3,744 ft.; wtr. 3,747 ft.; H.F.W. 3,876 ft.; drlg. 3,916 ft.

RICE COUNTY

Detrick et al's No. 1 Conner, C NE NE Sec. 28-19-7w.
Cellar.
Detrick et al's No. 1 Monroe, C NE NE Sec. 9-20-7w.
Building rig.
Fred Rust et al's No. 1 Brown, NE cor. Sec. 16-21-6w.
Rigged up.
Three Rivers Oil Co.'s No. 1 Buehler, NW NW NW Sec. 17-18-8w.
Rig.
Vickers Pet. Co. et al's No. 1 Gouldner, SE NE NW Sec. 16-18-9w.
Siliceous lime 3,224-27 ft.; 349 bbls. in 24 hrs at T.D. of 3,228 ft.; pumped 140 bbls.in 5 hrs.; T.D. 3,230 ft.

ROOKS COUNTY

El Dorado Refining Co.'s No. 1 Marshall, C SE SE Sec. 8-7-17w.
Moving in material.
Murfin et al's No. 1 Wasthusin, NE NE SE Sec. 19-9-16w.
Rig.
Smith & Ash's No. 1 Nelson, NW NW NE Sec. 27-10-16w.
Drlg. 1,348 ft.
Trees Oil Co. and Findeiss' No. 1 Johnson, SW SW SE Sec. 26-10-19w.
Drlg. 2,190 ft.

RUSH COUNTY

Boyle & Grossman's No. 1 Wilson, NE NE NE Sec. 33-17-19w.
Cellar.
Boyle & Grosman et al's No. 1 Yost, C SW SW Sec. 28-17-18w.
H.F.W. 3,480-86 ft.; U.R. 6-in. csg.
Eldorado Ref. Co.'s No. 1 Stang, SE NW Sec. 36-17-17w.
Dry and abd. 3,577 ft.
Lario O. & G. Co. et al's No. 1 Gillig, NE SE NW Sec. 24-17-17w.
Drlg. 770 ft.
Lario O. & G. Co. and Phillips Pet. Co.'s No. 1 Benbow, NW NE NE Sec. 12-17-19w.
T.D. 3,790 ft.; fishing.
Ramsey Pet. Co. et al's No. 1 Darkes, SW SW NW Sec. 5-17-20w.
Drlg. 3,000 ft.
Twin Drlg. Co. et al's No. 1 Appl, SW SW NE Sec. 29-17-17w.
T.D. 1,230 ft.

RUSSELL COUNTY

J. Brouk and R. D. Bailey's No. 1 Kleusner, NW SE Sec. 34-15-12w.
Drlg. 1,825 ft.
Buffalo Oil Co.'s No. 1 Kunz, NE NE SW Sec. 19-14-15w.
Moving in material.
Coraleana Oil Co.'s No. 1 Flegler, SE SE SE Sec. 11-15-14w.
Moving in material.
Hartman & Blair's No. 1 Rexroat, NE NW NW Sec. 31-14-14w.
Drlg. 2,645 ft.
Murfin et al's No. 1 Gorham estate, NE NE SE Sec. 29-14-15w.
Cellar.
Nassau Oil Corp.'s No. 1 Karst, NW SW NE Sec. 27-15-14w.
Rigging up.
Tom Palmer's No. 1 Machin, SW SW SE Sec. 9-13-14w.
Cellar.
Pryor and Lockhart's No. 1 Spicer, NE SE Sec. 21-11-15w.
U.R. 8-in. csg. to 2,170 ft.
Roth & Faurot's No. 1 Shaffer, NW NW NE Sec. 31-13-12w.
Moving in material.
Stearns & Streeter's No. 1 Dreling, SW SW SW Sec. 8-13-15w.
Building rig.
Vernon & Murphin's No. 1 Becker, NE cor. Sec. 32-15-14w.
S.D. 2,335 ft.
Wakefield & Armer's No. 1 Hall, NE SE SW Sec. 36-14-15w.
Siliceous lime 3,171-76 ft.; pumped 105 bbls. in 6 hrs.; C.O.
A. E. Seely et al's No. 1 Herman, SE NW Sec. 27-12-15w.
S.D. 450 ft.
Winkler & Koch's No. 1 Harman, SE SE NW Sec. 27-12-15w.
Topeka lime 2,755; show of oil 2,760-80 ft.; drlg. 2,875 ft.

SEDGWICK COUNTY

Allison & Fitzwilliams et al's No. 1 Struthers, NE SW Sec. 34-28-2w.
Drlg. 3,095 ft.
Magnolia Pet. Co.'s No. 1 Bartholomew, SE SE SW Sec. 30-27-4w.
Chat 3,682 ft.; 9-in. 3,692 ft.; standardizing.

SCOTT COUNTY

Atlantic Oil Prod. Co.'s No. 1 Mark "A," C SE SE Sec. 28-20-33w.
Viola 5,382 ft.; drlg. 5,485 ft.

STAFFORD COUNTY

C. B. Davis et al's No. 1 Riley, SE cor. Sec. 19-22-11w.
Siliceous lime 3,589-3,606 ft., T.D.; 2,025 ft. of oil in hole.
Empire O. & R. Co.'s No. 1 Grove, NE NE NW Sec. 5-22-11w.
U.R. 10-in. csg. to 2,090 ft.
Heimerich & Payne's No. 1 Geisler, NW NW SE Sec. 28-22-12w.
Siliceous lime 3,611-25 ft.; show oil; T.D. 3,625 ft.

SUMNER COUNTY

Allison & Fitzwilliams et al's No. 1-B Hitchcock, SE NW Sec. 16-30-1w.
Drlg. 2,690 ft.
D. J. Wilson et al's No. 1 Clark, 1,320 ft. from W and 25 ft. from S line of NW Sec. 15-35-1w.
S.D. 1,000 ft.
Winkler & Koch et al's No. 1 Belsley, SW SW NW Sec. 2-32-2w.
Moving in material.

TREGO COUNTY

Central Commercial's No. 1 Wagg, NW NW SE Sec. 17-13-21w.
C.O. at 1,600 ft.
Hansa & Lauck and Olson Drlg. Co.'s No. 1 Lang, SE SE NW Sec. 1-14-21w.
Topeka lime 3,285 ft.; T.D. 3,314 ft.; set whipstock 3,625 ft.
Vickers et al's No. 1 Secor, NW NW NW Sec. 25-15-24w.
Moving in material.

WOODSON COUNTY

Connell & Marshall's No. 1 Klick, SW NW SW Sec. 20-25-14.
Drlg. 90 ft.

Gulf Coast Wildcats

Week Ending June 29

RACCOON BEND—AUSTIN COUNTY

Humble O. & R. Co.'s No. 6 McCasland, 933 ft. SE from No. 4-X McCasland, 250 ft. at R/A NE from SW line, Wm. C. White Sur.
Drlg. shale, 1612 ft.
Humble O. & R. Co.'s No. 17-X Thompson, 933 ft. SE from No. 13-X Thompson, 466 ft. SW from NE line.
T.D. 4,097 ft.; I.P. 77 bbls. per hour on ¼-inch choke.

ALLEN DOME—BRAZORIA COUNTY

Mills Bennett Prod. Co.'s No. 4 Rose Allen, 320 ft. SE of No. 1, 300 ft. E of No. 4 Owens, J. G. Mendal Sur.
T.D. 5,674 ft.; heaving shale; washing 5,380 ft.

DAMON MOUND—BRAZORIA COUNTY

Intercoastal Oil Co.'s No. 13 Wisdom, 150 ft. from NW line and 10 ft. from SW line of Lot "D," Blk. No. 51.
S.D. 2,600 ft.

HASTINGS—BRAZORIA COUNTY

Humble O. & R. Co.'s No. 1 E. Lively, 330 ft. from the N line, and in the center of E and W lines of Lot 13, A.C.H.&B. Sur.
Drlg. shale and lime 1,707 ft.
Humble O. & R. Co.'s No. 1 J. F. Bridges, center of N 10 acres of 20-ac. lease, A. C.H.&B. Sur. No. 3.
Location.
Humble O. & R. Co.'s No. 2 J. F. Bridges, center of S 10 acres of 20-ac. lease, A. C.H.&B. Sur. No. 2.
Location.
Humble O. & R. Co.'s No. 1 J. C. Johnson, center of 10-ac. lease, A.C.H.&B. Sur. No. 2.
Location.
Stanolind O. & G. Co.'s No. 3 J. W. Surface, 330 ft. S and 465 ft. W of most northerly NE cor. of 75.9-ac. tract, A.C. H.&B. Sur. No. 2.
16-inch csg. 285 ft.; drlg. sand 770 ft.
Stanolind O. & G. Co.'s No. 3 B. L. Turner, 330 ft. at R/A from NW line and 330 ft. from S line of Turner 195-ac. tract, A.C.H.&B. Sur. No. 1.
Bldg. derrick.
Stanolind O. & G. Co.'s No. 4 Sneed, 330 ft. S, 330 ft. W of NE cor. of Lot 12, D. M. Jay Subd., on Sneed 225-ac. tract, A.C. H.&B. Sur. No. 2.
16-in. csg. 195 ft.; T.D. 200 ft.
Stanolind O. & G. Co.'s No. 2 E. Grote, 466 ft. at R/A from N line and 1,061.6 ft. at R/A from E line of Grote 71.62-ac. tract, A.C.H.&B. Sur. No. 2.
16-inch csg. 195 ft.; T.D. 200 ft.
Stanolind O. & G. Co.'s No. 2 Turner, 285 ft. N, 2,876 ft. W of SE cor. of 195-ac. tract, A.C.H.&B. Sur. No. 1.
Drlg. shale 1,100 ft.
Stanolind O. & G. Co.'s No. 1 Kidd, 285 ft. S of N line, 455 ft. E of W line of 58.4-ac. lease, A.C.H.&B. Sur. No. 2.
Drlg. sand, shale, 5,055 ft.
Stanolind O. & G. Co.'s No. 1 J. C. Hutchinson, 330 ft. S, 330 ft. E of the NW cor. of a 40-ac. tract in the A.C.H.&B. Sur. No. 26.
Drlg. sandy shale 5,592 ft.
Stanolind O. & G. Co.'s No. 3 Sneed, 466 ft. at R/A from W line and 466 ft. at R/A from the N line of a 225-ac. tract, A.C.H.&B. Sur. No. 2.
Top oil sand 6,085 ft.; coring oil sand 6,081 ft.
Stanolind O. & G. Co.'s No. 1 B. L. Turner, 695 ft. N of S line, 2,550 ft. E of W line of survey.
T.D. 6,100 ft.; 7-in. csg. 6,100 ft.; I.P. 37 bbls. in 5 hrs. through ¼-in. choke; T.P. 700 lbs.; C.P. 550 lbs.
Stanolind O. & G. Co.'s No. 1 Ford, 330 ft. N of S line of 199.37-ac. tract and 1,725 ft. E of W line of A.C.H.&B. Sur. No. 1.
Drlg. sandy shale 6,110 ft.
Stanolind O. & G. Co.'s No. 1 Williams, 466 ft. N, 1,126 ft. from most easterly SW cor. of 81.3-ac. lease, A.C.H.&B. Sur. No. 1.
T.D. 5,219 ft.; set whipstock, reaming.

MANVEL—BRAZORIA COUNTY

Bowles and Barsodi's No. 5 B. E. Norvell Investment Co., 274.5 ft. from S line, 440 ft. from E line of Lot 45, Sec. 23, H.T. &B. Sur.
Location.
T. J. Holcombe's No. 1 A. F. Beddo, 220 ft. from E line, 248 ft. from S line of Blk. 29, H.T.&B. Sur.
Rig up.
Jay Simmons' No. 1 Stitt, located in center of W 5 acres of Lot No. 28, H.T.&B. Sur. No. 22.
T.D. 4,008 ft.; 7-in. csg. 3,990 ft.; drilled to 4,004 ft.; shut off salt water to install gas lift.
J. W. Sorrells' No. 1 Swift, Blk. 21, Abst. 218, H. N. Little Sur.
Derrick.
Texas Co.'s No. 2 Morrison, 330 ft. from E line, 330 ft. S of NW cor. of Lot 32, A.C.H.&B. Sur.
Drlg. clay 527 ft.
Texas Co.'s No. 3 Boff, 50 ft. W, 50 ft. S of NE cor. of Lot No. 24, Charles O'Donnell Sur.
Drlg. gumbo 1,159 ft.
Texas Co.'s No. 2 A.R.G.H. Co., 220 ft. E and 247 ft. N of SW cor. of Lot 38, H.T. &B. Sur.
T.D. 4,021 ft.; running 7-in. csg.; I.P. 33 bbls. per hr.; T.P. 900 lbs.; C.P. 975 lbs.
Texas Co.'s No. 8 Ewing, 770 ft. S, 41 deg., 40 ft. W and 648 ft. N, 47 deg., 59 ft. from E cor. of lease, H. N. Little Sur.
T.D. 4,008 ft.; 7-inch csg. 3,984 ft.
Texas Co.'s No. 4 F. Leider, 150 ft. S, 42 deg. W from the lease line and 150 ft. S, 48 deg. E from NW line of Lot 3, H. N. Little Sur.
Drlg. shale 3,994 ft.
Texas Co.'s No. 1 O. W. Halligan, center of Lot 27, H.T.&B. Sur. No. 23.
Location.
Texas Co.'s No. 1 O. W. Halligan, center of Lot 26, H.T.&B. Sur. No. 23.
Derrick.
Texas Co.'s No. 16 Houston Oil Fields Assn., 247 ft. S, 440 ft. E from NW cor. of Lot 19, A.C.H.&B. Sur. No. 91.
T.D. 1,396 ft.; reaming to straighten hole.
Texas Co.'s No. 2 Dawson, 247 ft. S, 241 ft. W of NE cor. of Lot 58, H.T.&B. Sur. No. 23.
Location.
Trumba Oil Co.'s (J. M. Campbell) No. 1 H. McCauley, 150 ft. each way out of NE cor. of W 5 acres of Lot No. 2, A.C.H.&B. Sur. No. 91.
Location.
Uscan Oil Co.'s No. 1 Ebbert, 247.5 ft. from N line, 247.5 ft. from S line of 10-ac. tract, Sec. 23, H.T.&B. Sur.
Drlg. shale 2,400 ft.
Whittle Oil Co.'s No. 1 Duke, 320 ft. W of E line, center N and S Lot 18, H.T.&B. Sur. No. 23.
Spudded and S.D.
Woodbine Oil Co.'s No. 1 A. F. Beddo, midway N and S lines of a 2-ac. lease, Blk. 29, H.T.&B. Sur.
Derrick.

OLD OCEAN—BRAZORIA COUNTY

Harrison & Abercrombie's No. 2 Bernard River, 1,000 ft. N, 54 deg. W, 400 ft. S, 36 deg. W of No. 1, Charles Breen Sur.
Drlg. sandy lime 6,005 ft.

PORT LAVACA—CALHOUN COUNTY

Empire G. & F. Co.'s No. 1 Hartman, 1,324 ft. from SE line, 497 ft. from NE line of 80-ac. lease, M. Sanches Sur.
Drlg. shale 4,530 ft.
Halliburton Oil Prod. Co.'s No. 2 Burton 801 ft. E of No. 1 M. Sanches. Surveying—location.
Halliburton Oil Prod. Co.'s No. 2 Dave Burton, 330 ft. SW along E line of Texas Co.'s Shofner 10-ac. lease and 330 ft. at R/A, M. Sanches Sur.
T.D. 6,238 ft.; 7-inch csg. 6,220 ft.
Steinberger Pet. Co.'s No. 2 Shofner, 932 ft. SW of No. 1 Shofner, and 466 ft. from SE line of tract, M. Sanches Sur.
Drlg. shale 783 ft.
Texas Co.'s No. 1 Hackney, 1,504 ft. N of S line and 466 ft. E of W line of B. Rodriquez Sur.
Drlg. shale 5,670 ft.
Texas Co.'s No. 1 Shofner, SE offset to Steinberger's No. 1 Shofner, M. Sanches Sur.
T.D. 6,260 ft.; 7-in. csg. 6,232 ft.; P.B. 6,245 ft.; reset screen flowing wash water with 450 lbs. pressure in csg.
Tulane Gordon's No. 1 W. A. Shofner, 339.5 ft. from N line, 295 ft. from E line of block, D. Tilley Addn., M. Sanches Sur.
Location.

ANAHUAC—CHAMBERS COUNTY

Humble Oil & Refg. Co.'s No. 4 Meddleton, 2,085 ft. N of S line, 466 ft. E of W line of Sec. 58, H.&T.C. Survey.
Derrick.
Humble O. & R. Co. and Rycade Oil Co.'s No. 1 Engels, 466 ft. out of SE cor. of Sec. 50, H.&T.C. Sur.
Location.
Humble O. & R. Co.'s No. 2 Broussard, 2,332 ft. E of W line, 2,332 ft. N of S line of Sec. 63, H.&T.C. Sur.
Location.
Humble O. & R. Co.'s No. 3 Broussard, 1,399 ft. out of NW cor. of Sec. 62, H.&T.C. Sur.
Drlg. sand and boulders 2,530 ft.
Humble O. & R. Co.'s No. 2 Clark, 2,332 ft. W of E line, 2,332 ft. N of S line of Sec. 57, H.&T.C. Sur.
Drlg. shale 6,210 ft.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 2-C Barber, 93 ft. N of No. 1, 100 ft. E of W line.
T.D. 5,220 ft.; 9⅝-inch csg. 5,180 ft.; I.P. 342 bbls. per day thru ¼-inch choke.
Sun Oil Co.'s No. 7 Higgins, 50 ft. S of N line, 50 ft. W of E line.
Drlg. rock 3,657 ft.
Sun Oil Co.'s No. 11 Chambers County, half way between and in line with Nos. 9 and 10.
Drlg. sandy shale 4,093 ft.
Texas Gulf Prod. Co.'s No. 25-B Kirby, 75 ft. S of N line of Kirby "B" Lease, S offset to No. 3 Fitzgerald.
Top salt 1,392 ft.; drlg. salt 1,539 ft.
Texas Gulf Prod. Co.'s No. 6 Wilburn, 50 ft. N of S line, 25 ft. E of W line, William Hodges Sur.
Drlg. sand and shale 4,697 ft.
Texas Gulf Prod. Co.'s No. 2 Fitz-Meadows, 231 ft. S of N line, 50 ft. W of E line of T. S. Fitz lot.
T.D. 4,563 ft.; P.B. 4,040 ft.; flowing about 3 bbls. per day, testing.
Yount Lee Oil Co.'s No. 30 Chambers County School Land, 50 ft. N of S line, direct offset to Sun Oil Co.'s No. 11.
Drlg. salt 1,910 ft (corrected).

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 19 Mays, 400 ft. SE of No. 11, 400 ft. SW of No. 14, E. H. R. Wallace Sur.
T.D. 2,806 ft.; I.P. 60 bbls. per day on pump.

BIG CREEK—FORT BEND

Trans State Oil Co.'s No. 1 B. J. Wheat, 108 ft. N of S cor. of J. F. Ahlers lease

and 88 ft. E at right angles, W. Young Sur.
Rig up.

BOLING—FORT BEND COUNTY

Irwin Larsen et al's No. 1 J. R. Farmer, 100 ft. NW and 100 ft. SW from E cor. of 125-ac. lease, James Scot Sur. Location.

Midland Oil Co.'s No. 1 P. F. Coulter, 150 ft. from S line, 4,174 ft. from W line of 100-ac. tract, Miller League No. 2. Set screen; T.D. 4,186 ft.

Sun Oil Co.'s No. 1 H. R. Farmer, 103 ft. from N line, 359.2 ft. from W line of 100-ac. tract, James Scott League Sur. Drlg. shale 4,404 ft.

Yew Development Co.'s No. 1 C. E. Farmer, 600 ft. S and 325 ft. W of the NE cor. of 50-ac. lease, James Scott Sur. Rig up.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 44 Moore, 500 ft. NW of No. 42, Leo Burknapp Sur. Rig up.

Gulf Prod. Co.'s No. 43 Moore, 350 ft. E along S line of SW cor. of E.M.&G. Co. Sur. and 740 ft. N at R/A to said line of lease, 350 ft. E of No. 2 Moore. Drlg. shale 6,601 ft.

THOMPSON—FORT BEND COUNTY

Gulf Prod. Co.'s No. 9 Hammerstram, S Kennedy Sur.; 330 ft. N of S line, 4,775 ft. E of W Line. Rig up.

Gulf Prod. Co.'s No. 10 Hammerstram, S Kennedy Sur. T.D. 5,390 ft.; I.P. 1,440 bbls. per day on ¼-inch choke.

Humble O. & R. Co.'s No. 2 Gubbels, 500 ft. E of W line, 500 ft. N of S line, 638 ft. W of No. 4-B Gubbels, S. Kennedy Sur. Drlg. shale 5,132 ft.

Humble O. & R. Co.'s No. 25-A Booth. Derrick.

HIGH ISLAND—GALVESTON COUNTY

Yount-Lee Oil Co.'s No. 48 Cade, 900 ft. SE and 150 ft. NE of SW corner Block 4, Fitzsimmons Survey. Bldg. derrick.

Yount Lee Oil Co.'s No. 3 Maco-Stewart, 202 ft. S of No. 2 Stewart and 122 ft. W of E line of 7.73 acre tract, D. Dunman Survey. Location.

Yount Lee Oil Co.'s No. 1-C Geo. Smith, D. Dunman Sur. 10¾-inch csg. 1,184 ft.; W.O.C.

Yount Lee Oil Co.'s No. 47 Cade, Fitzsimmons Sur. Drlg. sandy shale and boulders 3,467 ft.

Yount Lee Oil Co.'s No. 2 Lousiafot, 150 ft. due S of No. 1, M. Dunman Sur. Drlg. shale and lime 3,381 ft.

Yount Lee Oil Co.'s No. 2-A Taylor, 85 ft. W of No. 1, A. Dunman Sur. T.D. 4,879 ft.; 7-inch csg. 4,807 ft.

Yount Lee Oil Co.'s No. 46 Cade, 424 ft. SW of No. 35, 424 ft. NW of No. 36, Fitzsimmons Sur. T.D. 5,502 ft., 7-inch csg. 5,466 ft.

Yount Lee Oil Co.'s No. 1 Taylor, D. Dunman Sur., 125 ft. due E of No. 1-A Gordon-Viterbo. T.D. 4,853 ft.; 7-inch csg. 4,780 ft.; I.P. 235 bbls. perday thru 3-16 inch choke; T.P. 525 lbs.

DICKINSON—GALVESTON COUNTY

Humble Oil & Refg. Co.'s No. 1 Hanson, 502 ft. from N line and 256 ft. from E line of 15.59 acre tract. Derrick.

Humble Oil & Refg. Co.'s No. 6 Maco Stewart, 6,087 ft. S of NE corner, 1,390 ft. W of E line and 1,390 ft. E of W line and 466 ft. N of S line of Stewart 363 acre lease, J. Sellers Survey. Bldg. derrick.

Humble O. & R. Co.'s No. 5-A Stewart, 466 ft. W of E line of Stewart "A" Lease, 5,500 ft. due S of No. 2-A Stewart, John Sellers Sur. Rig up.

Humble O. & R. Co.'s No. 1 Bayou Development Co., 375 ft. S of N line and midway between E and W lines of Lot No. 7, John Sellers Sur. Derrick.

Humble O. & R. Co.'s No. 2-B Maco Stewart, 400 ft. from N line of Bayou, 610 ft. from No. 1-B, John Sellers Sur. W.O.C. 8,063 ft.; recovered 13 thribbles of oil and mud on drill stem test.

Humble O. & R. Co.'s No. 1 E. E. Anderson, 375 ft. N of S line, and midway between E and W lines of Lot No. 4, John Sellers Sur. Location.

Humble O. & R. Co.'s No. 1 Fugger, 323 ft. from W line, 522 ft. from N line of lease, J. S. Sherman Sur. T.D. 8,081 ft.; I.P. 283 bbls. per day on ¾-inch choke; T.P. 225 lbs.; C.P. 900 lbs.

Humble O. & R. Co.'s No. 1 Townes, 449 ft. E and W line, 550 ft. N of N bank of Bayou, B.B.B.&C. Sur. T.D. 8,076 ft.; I.P. 22 bbls. per hour thru ¼-inch choke; T.P. 1,440 lbs.; C.P. 2,300 lbs.

Humble O. & R. Co.'s No. 2-A Maco Stewart, 3,324 ft. S along E line of S bank of Bayou and 566 ft. W of E line at R/A John Sellers Sur. Coring hard shale, no show 8,519 ft.; recovered 12 thribbles of gas cut mud on drill stem test from 8,438-8,627 ft.

Stanolind O. & G. Co.'s No. 1 State, 247 varas S of Humble O. & R. Co.'s No. 1 Jones. Spudded and S.D.; prepare to start up.

ARRIOLA—HARDIN COUNTY

Houston Oil Co.'s No. 8 fee, Arriola Sur. T.P. 2,062 ft. to reset screen.

Houston Oil Co.'s No. 6-X fee, 466 ft. SE of No. 4-X, 500 ft. SE of No. 5-X fee. Drlg. shale 4,774 ft.

Republic Prod. Co.'s No. 12 fee, 2,599 ft. S of N line, 474 ft. E of W line of E. Arriola Sur. T.D. 3,585 ft., prepare to make drill stem test.

BATSON—HARDIN COUNTY

Danciger Oil & Refining Co.'s No. 1 Tom Wynne, 250 ft. S. 150 ft. W of Deering's No. 1 Cruse. Coring sandy shale 6,038 ft.

John Deering's No. 1 Conzelman, 2,810 ft. E along N line from NW cor. of H. Numm Sur. and 35 ft. at R/A, W. Donaho Sur. T.D. 5,129 ft.; 7-inch csg. 5,090 ft.

John Deering's No. 1 Bullock, 1,000 ft. N, 17 ft. E of middle line of 30-ac. tract, Bullock tract, Dondo Sur. T.D. 6,294 ft.; hole heaved to 4,944 ft.; S.D.

John Deering's No. 2 Cruse, 200 ft. E and 50 ft. S of No. 1 Cruse, W. Donaho Sur. Rig up.

Sterling Oil & Refg. Co.'s No. 1 Doucette, 565 ft. N from NE corner of Mann tract, thence 565 ft. at R/A, W. Donoho Survey. Prepare to work over, T.D. 5,914 ft., sidetracked at 5,680 ft.; drlg. shale 5,140 ft.

Shell Pet. Corp.'s No. 1 R. O. Jordan Fee, W. Donoho Survey. Moving in derrick.

PIERCE JUNCTION—HARRIS COUNTY

J. S. Abercrombie's No. 5 John Ritter, 259 ft. SW of No. 4, 1,047 ft. NE along SE line out of SW cor. of 160-ac. tract, thence 93 ft. NW at R/A, Sec. 51, J. Hamilton Sur. Drlg. shale and sand 3,308 ft.

Gulf Prod. Co.'s No. 11 H. C. Cain, 390 ft. from W line, thence 439 ft. at R/A to N line of 130-ac. tract, Jas. Hamilton Sur. No. 98. Drlg. shale 4,114 ft.

Gulf Prod. Co.'s No. 40 E. R. Taylor, 89.5 ft. along E line of E. R. Taylor's 560-ac. tract from SW cor., south offset to Hamil & Smith's No. 1 Howe. Drlg. shale 5,811 ft.

Hamil & Smith's No. 1 C. W. Mowery, 50 ft. out of NE cor. of 600-ac. tract, Sec. 53, J. Hamilton Sur. Drlg. shale and lime 6,445 ft.

W. H. Holland et al's No. 1, I.&G.N.R.R., 830 ft. from S line of Jas. Hamilton Sur. Derrick.

Rio Bravo Oil Co.'s No. 28 Settegast, 1,010 ft. W and 450 ft. N from most southerly SE corner of "B" Lease, J. Kopmen Sur. Derrick.

HUMBLE—HARRIS COUNTY

Sun Oil Co.'s No. 30 Bender, 2,393 ft. N, 3,080 ft. W of most northerly SE cor. of lease; B. Adams Sur. Location.

Sun Oil Co.'s No. 31 River. Coring oil sand 1,112 ft.

Sun Oil Co.'s No. 20 Bender. Washing down T.D. 3,821 ft.

Sun Oil Co.'s No. 29 Bender, Robert Dunman Sur. Abd. 1,402 ft.

MYKAWA—HARRIS COUNTY

Alpha Pet. Co.'s No. 1 Waggenhausen, C of E½ Lot 10, F. J. Rothas Sur. T.D. 4,681 ft.; P.B. 4,554 ft.; swabbing.; 7-in. csg. 4,516 ft.

Danciger O. & R. Co.'s No. 3 Minnetex, 563 ft. due E of No. 1, thence 150 ft. at R/A, Blk. 254, W. H. Lovett Sur. Drlg. shale 3,775 ft.

Flannigan Drlg. Co.'s No. 1 Minnetex, 150 ft. out of NE cor. of Blk. 261, Wm. Lovett Sur. Derrick.

Sterling Oil & Ref. Co.'s No. 1 B. H. Williams, 200 ft. W of E line, 915 ft. N of S line of 29-ac. tract, Wm. Lovett Sur. T.D. 4,416 ft.; running 7-in. csg.; would not flow, deepened to 4,480 ft.; I.P. 525 bbls. of oil per day on 5-16-in. choke.

West Prod. Co.'s No. 1 Forbes, center of Blk. 15, F. J. Rothas Sur. Drlg. shale and lime 3,850 ft.

West Prod. Co.'s No. 1 Lee, 200 ft. out of NW cor. of Wm. R. Wilson Sur. Cmtd. surface csg. 1,397 ft.

West Prod. Co.'s No. 1 W. Slang, John R. Hall Sur., Blk. 7. Drlg. shale 420 ft.

TOMBALL—HARRIS COUNTY

Amerada-Stanolind O. & G. Co.'s No. 2 W. H. Doyle, 357 ft. from E and W lines, 466 ft. from N line of 34-ac. tract, J. House Sur. Pulled csg. to 2,772 ft., side tracked at 2,772 ft.; drlg. sand 4,831 ft.; T.D. 5,587 ft.

Amerada Pet. Corp.'s No. 3 A. B. Metzler, T.D. 5,586 ft.; 7-in. csg. 5,577 ft.

Humble O. & R. Co.'s No. 2 Mueller. Top sand 5,553 ft.; T.D. 5,556 ft.; 7-in. csg. 5,549 ft.

Humble O. & R. Co.'s No. 6-A Quilter, 1,241 ft. W of E line, 1,115 ft. N of S line, 728 ft. from No. 4, A. Senchal Sur. Drlg. shale and lime 5,468 ft.; T.D. 5,562 ft.; comp. no gauge.

Humble O. & R. Co.'s No. 3 Gossett, 550 ft. from most northerly SE line, 186 ft. NE from southwesterly SW line, E. Smith Sur. T.D. 5,562 ft.; comp.; no gauge.

Humble O. & R. Co.'s No. 1-A Hillegeist, 691 ft. N of S line, 168 ft. E of W line, 168 ft. W of E line of 11.65-ac. tract, James House Sur. T.D. 5,566 ft.; top sand 5,558 ft.; 7-inch csg. 5,563 ft.; I.P. 18 bbls. per hour thru ¼-inch choke.

Humble O. & R. Co.'s No. 2 Scherer, 1,872 ft. S of N line, 566 ft. E of W line, 566 ft. W of E line, J. H. Edwards Sur. T.D. 5,587 ft.; 7-in. csg. at 5,582 ft.; flowed 3 bbls. per hour; killed well; P.B. to 5,542 ft.

Shell Pet. Corp.'s No. 2 Theis, 2,382 ft. N and 292 ft. W of SE cor. of lease, J. House Sur. Bldg. derrick.

Shell Pet. Corp.'s No. 1 Rudel, 947 ft. W, 377 ft. N of SE cor. of lease, Wm. Hurd Sur. T.D. 5,572 ft.; 7-in. csg. 5,541 ft.; I.P. 249 bbls. per day on ¼-in. choke.

BIG HILL—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 1-B Pipkin & Davis, 2,225 ft. from E line and 2,385 ft. from N line of survey, Wm. McFadden Sur. Drlg. shale 3,963 ft.

FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 5 Junker. Drlg. lime rock 4,966 ft.

CLEVELAND—LIBERTY COUNTY

Black Gold Pet. Oil Corp.'s No. 2 R. D. McDonald, 466 ft. W of most westerly E line and 466 ft. N of most northerly S line of survey, 933 ft. W of Gulf Prod. Co.'s No. 7-C Kirby Lbr. Co., T. Devers Sur. Derrick.

Gulf Prod. Co.'s No. 2 McDonald, 3,569 ft. W along S line from most easterly SE cor. of survey and 1,286 ft. N at right angles, Charles Smith Sur. Drlg. shale 3,605 ft.

William J. Colegrove et al's No. 1 State School Land & Dev. Co., 446 ft. from W line and 170 ft. from S line of survey, Clayton Harper Sur. Location.

ESPERSON—LIBERTY COUNTY

General Crude Oil Co.'s No. 21 Esperson. Fishing; T.D. 6,631 ft.

General Crude Oil Co.'s No. 1 W. D. Kay, Malcolm Duncan Sur., 1,537 ft. along N T.D. 8,543 ft.; P.B. to 6,230 ft.; tested salt water; P.B. 4,295 ft.

General Crude Oil Co.'s No. 10 Davis, 2,000 ft. from E line, 660 ft. from S line of D. Kokernut Sur. Drlg. shale 7,685 ft.

HANKAMER—LIBERTY COUNTY

Eastman-Ward's No. 1 R. E. Lee, 115 ft. from N line of lease and 76 ft. W of west bank of White Bayou, Geo. Stengler Sur. Moving in.

Eljean Oil Co.'s No. 2 S. E. Ezzell, 130 ft. from N and S line of 10-ac. lease, Levi Barrow Sur. Location.

Gulf Prod. Co.'s No. 1-B W. L. Bingle, 159 ft. E along S line of H.&T.C. Sur., thence 378 ft. Drlg. shale 5,380 ft.

Gulf Prod. Co.'s No. 20 E. W. Boyt, 1,235 ft. along W line of survey, 159 ft. from W line at R/A, Amos Allen Sur. T.D. 2,616 ft.; I.P. 272 bbls. per day on ¼-inch choke.

Gulf Prod. Co.'s No. 21 E. W. Boyt, 110 ft. from W line of Amos Allen Sur. Location.

Gulf Prod. Co.'s No. 22 Boyt, Allen Sur. Coring oil sand 5,080 ft.

Sterling O. & R. Co.'s No. 1 George Stengler, 100 ft. out of most westerly NE cor. of Geo. Stengler Sur. Derrick.

Will Strozier et al's No. 1 Ezzell, 700 ft. N of S line, 150 ft. W of E line of Levi Barrow Sur. Derrick.

Wilson Roach Oil Co.'s No. 2 Marrs-McLean, 513.4 ft. from W line, 100 ft. from E line, Levi Barrow Sur. Fishing 4,188 ft.; T.D. 4,200 ft.

HULL—LIBERTY COUNTY

Fondren & Snowden's No. 2 Humble-Hooks, 50 ft. from S line, 300 ft. NW of No. 1, J. Devore Sur. S.D. 802 ft.

Sterling O. & R. Co.'s No. 2 Taylor, 70 ft. W, 50 ft. N of the NE cor. of Humble-Taylor lease, J. Devore League. T.D. 3,183 ft., prepare to pump.

VAN VLECK—MATAGORDA COUNTY

Skelly Oil Co.'s No. 3 Cobb "B," 2,750 ft. from NW line, 2,900 ft. from SW line of M. Cummins Sur. T.D. 7,100 ft.; prepare to run 9⅝-in. csg., will core ahead.

MARKHAM—MATAGORDA COUNTY

Hamil & Hamil's No. 1 Hardy, 150 ft. E and 150 ft. S from NW cor. Hardy lease, H. Parker Sur. 4,025 ft.; no report.

CONROE—MONTGOMERY COUNTY

Humble O. & R. Co.'s No. 74-A South Tex. Lbr. Co., 466 ft. from N line, 1,500 ft. from W line of 325-ac. tract, Alex McCowan Sur. T.D. 5,080 ft.; 7-in. csg. 5,052 ft.; came in for gas well, killed to reset liner at 5,005 ft. T.D.

Sun Oil Co.'s No. 20 Foster. T.D. 5,121 ft.; I.P. 15 bbls. per hour.

SPLENDORA—MONTGOMERY COUNTY

Bryce McCandless et al's No. 1 Texas Long Leaf Lbr. Co., 330 ft. from N and E lines of the W½ of Blk. No. 8, Walker County School Land Sur. Derrick.

ORANGE—ORANGE COUNTY

Trio Oil Co.'s No. 1 D. S. Comier, 69 ft. W of E line and 39 ft. S of N line of 6.83-ac. tract in W. M. Dyson Sur. S.D. 2,005 ft.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 5-B (second), 897.5 ft. S, 850 ft. W from most westerly NE cor. of "B" Lease. Rig up.

Texas Co.'s No. 5 Stark, 400 ft. from S and 125 ft. from E line of lease, M. E. Hall Sur. Moving in.

Texas Co.'s No. 4-B Polk, 750 ft. S and 1,450 ft. W from NE cor. of lease, Jacob Beaumont Sur. Location.

Texas Co.'s No. 6-B Polk, 750 ft. S and 250 ft. W from NE cor. of lease, Jacob Beaumont Sur. Location.

LIVINGSTON—POLK COUNTY

T. A. Carlton Oil Co.'s No. 2 Watt, 695 ft. N of No. 1, 365 ft. from E and W lines of lease, A. Viesca Sur. T.D. 4,238 ft.; I.P. 267 bbls. per day; T.P. 1,310 lbs.; C.P. 1,550 lbs.

Gem Oil Co.'s No. 6 Davis & Holmes, 452 ft. from W and 662 ft. from N line of survey, A. Viesca Sur. Rig up.

Hawkeye Pet. Co.'s No. 1 L. C. Howard, 365 ft. from E line, 330 ft. from S line of 75-ac. tract, A. Viesca Sur. Rig up.

Hawkeye Pet. Co.'s No. 2 Howard, 365 ft. from E line of lease, 695 ft. N of No. 1, A. Viesca Sur. Location.

Humble O. & R. Co.'s No. 10 Granbury, 466 ft. NW and 466 ft. SW from S cor. of L. C. Howard 75-ac. tract, A. Viesca Sur. Drlg. shale 912 ft.

Ownby Drlg. Co. No. 3 Pratt, 660 ft. W of No. 2, 330 ft. S of N line, A. Viesca Sur. Derrick.

Sun Oil Co.'s No. 5 Pratt, 660 ft. W of No. 3, and 330 ft. S of N line of lease, A. Viesca Sur. Derrick.

SAN FELIPE—WALLER COUNTY

Buck Oil Co.'s No. 2 Vaughn, 300 ft. S, thence 200 ft. E from Seaport Oil Co.'s No. 1 Vaughn, J. McFarland Sur. T.D. 3,038 ft.; swabbed dry; prepare to deepen.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 11 Wilson Heard, 330 ft. S of center of N line on 5-ac. lease, Refugio townsite. Drlg. shale 1,310 ft.

United Gas Co.'s No. 20 Lambert. T.D. 4,387 ft.; I.P. 22 bbls. per hour thru ¼-in. choke; C.P. 1,320 lbs.

TOM O'CONNOR—REFUGIO COUNTY

Quintana Pet. Co.'s No. 11-A O'Connor, 3,200 ft. from W line, 2,900 ft. from N line of Swisher Sur. 5,903 ft; I.P 54 bbls per hour on ⅝-in. choke.

Quintana Pet. Co.'s No. 12-A O'Connor, 5,250 ft. from W line, 3,750 ft. from N line of Swisher Sur. T.D. 5,885 ft.; I.P. 60 bbls. per hour on ⅝-in. choke.

McFADDIN-O'CONNOR DISTRICTS—VICTORIA AND REFUGIO COUNTIES

Texas Co.'s No. 9 McFaddin, 1,850 ft. N, 2 deg., 45 ft. S from No. 2. 7-in. csg. 6,196 ft.; T.D. 6,276 ft.; perforated csg. from 4,425-37 ft. showed mud, oil and part water; will perforate from 4,420-34 ft. and test.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 14 Janner. Coring 1,071 ft.

LOUISE—WHARTON COUNTY

Pure Oil Co.'s No. 4 Kountze, 990 ft. NE, 990 ft. SE of W corner of 240-ac. tract, Morris & Cummings Sur. Derrick.

Pure Oil Co.'s No. 1 J. H. Roberts, 990 ft. SW and 660 ft. SE of N cor. of 80-ac. tract, Morris & Cummings Sur. Derrick.

Pure Oil Co.'s No. 2 Weever, 1,980 ft. SW, 990 ft. NW of E cor. of Sec. 22, J. M. Brownson Sur. Derrick.

Pure Oil Co.'s No. 2 Wharton, 400 ft. NW and 450 ft. NE from the most westerly cor. of Sec. 26, F. Walnut Sur. Drlg. shale 4,597 ft.

Pure Oil Co.'s No. 3 McIntyre, 485 ft. NE, 880 ft. SE from most NE cor. of 317.22-ac. lease, Morris & Cummings Sur. Coring shale 5,120 ft.

Shell Pet. Corp.'s No. 1 A. and E. Steves, 1,400 ft. E and 1,200 ft. S of NW cor. of 1,279.4-ac. lease, J. J. Dillard Sur. Spudded 84 ft.

BAY ST. ELAINE—TERREBONNE PARISH

Texas Co.'s No. 3 School Board, Sec. 16-22s-18e. Location.

Texas Co.'s No. 10 State, 4,550 ft. E and 4,595 ft. S of NW cor. of Sec. 17-22s-18e. Building foundations.

CALLIOU ISLAND—TERREBONNE PARISH

Texas Co.'s No. 23 Calliou Island. Coring sand 4,110 ft.

SOUTH LOUISIANA FIELDS

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 23 Watkins, 1,683 ft. E, 1,825 ft. S of NW cor. Sec. 17-12-12. Rig up.

Shell Pet. Corp.'s No. 24 Watkins, 2,832 ft. W, 695 ft. S of NW cor. Sec. 18-12-12. Rig up.

Shell Pet. Corp.'s No. 22 Watkins, 2,230 ft. W and 1,340 ft. S of NE cor. Sec. 18-12s-12w. Drlg. shale 3,189 ft.

Shell Pet. Corp.'s No. 21 Watkins, 1,570 ft. E of NW cor. Sec. 17-12s-12w. Cmtd. csg. 4,099 ft.

Shell Pet. Corp.'s No. 3 State. T.D. 6,157 ft.; P.B. 5,864 ft.

BOSCO—ACADIA AND ST. LANDRY PARISHES

Superior Oil Prod. Co.'s No. 3 Kahn, 2,603 ft. N and 360 ft. W of SE corner of Sec. 32-8s-3e. Location.

Superior Oil Prod. Co.'s No. 2 Altmond, 3,390 ft. S, 512 ft. W from NE cor. of Sec. 33-8s-3e. Drlg. shale 5,972 ft.

Superior Oil Prod. Co.'s No. 10 Hernandez, 2,125 ft. N, 1,155 ft. W from SE cor. of NW¼ Sec. 34-8s-3e. Drlg. sand and shale 5,792 ft.

Superior Oil Prod. Co.'s No. 5 Iseringhausen, 2,662 ft. S, 686 ft. E out of NW cor. of Sec. 35-8s-3e.
Drlg. shale 7,738 ft.
Superior Oil Prod. Co.'s No. 6 Larcade, 451 ft. N, 2,053 ft. E of SW cor. Sec. 26-8s-3e.
T.D. 8,682 ft.; 7-in. csg. 8,667 ft.
Superior Oil & Prod. Co.'s No. 1 E. Arceneaux, 2,027 ft. E of NW cor., 4,583 ft. S of Sec. 35-8s-3e.
7-in. csg. 8,653 ft.; T.D. 8,670 ft.
Superior Oil & Prod. Co.'s No. 1 M. Benoit, 1,165 ft. W of SE cor., 2,320 ft. N, Sec. 34-8s-3e.
Reaming to core ahead 8,848 ft.
Superior Oil Prod. Co.'s No. 2 Domingua, 3,194 ft. N, 1,150 ft. N of SE cor. Sec. 34-8s-3e.
T.D. 8,610 ft.; 7-inch csg. 8,590 ft.
Superior Oil & Prod. Co.'s No. 8 Hernandez, 105 ft. E, 219 ft. N of SW cor. of NW¼ Sec. 34-8s-3e.
T.D. 8,621 ft.; P.B.; sidetracked; shale 8,203 ft.
Superior Oil Prod. Co.'s No. 2 Le Blanc, 1,698 ft. S, 937.09 ft. W of NE cor. Sec. 33-8s-3e.
T.D. 8,373 ft., cleaned hole to 7,238 ft.; prepare to side track.

ASCENSION PARISH

Humble O. & R. Co.'s No. 4 Community, 4,825 ft. from NE cor. and 283 ft. S of N line at R/A, Sec. 33-10s-2w.
Digging cellar.

CAMERON MEADOWS—CAMERON PAR.

Magnolia Pet. Co.'s No. 12 Cameron Meadows, 423 ft. E of No. 11.
Spudded.
Burton-Sutton Oil Co.'s No. 4 School Land, 2,891 ft. W and 150 ft. N of SE cor. of Sec. 16-4s-13w.
Derrick.

CHOCTAW DOME—IBERVILLE PARISH

Standard Oil Co.'s No. 1 Myrtle, 900 ft. N and 550 ft. W of SE cor. of SW¼ of Sec. 52-9s-11e.
Rig up.

DOG LAKE—TERREBONNE PARISH

Texas Co.'s No. 11 State, 1,100 ft. N, 2,,476 ft. W of SE cor. of Sec. 21-21s-16e.
S.D. 2,014 ft.

FOUR ISLE—TERREBONNE PARISH

Texas Co.'s No. 8 La. Land & Expl. Co., 2,177 ft. E, 1,385 ft. S of NW cor. Sec. 24-21s-16e.
Rig up.
Texas Co.'s No. 5 State, 885 ft. S, 2,327 ft. E of NW cor. of Sec. 24-21s-16e.
Location.

GARDEN ISLAND BAY—PLAQUEMINES PARISH

Texas Co.'s No. 13 State, 3,391 ft. S and 1,604 ft. W of NE cor. Sec. 107-23-32.
Rig up.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 6, Alliance Trust, 667 ft. E. 1,787 ft. S line of lease, Sec. 34-11s-1w.
Drlg. shale 9,428 ft.

HACKBERRY—CAMERON PARISH

Gulf Prod. Co.'s No. 18 Erwin, 271 ft. W and 722 ft. N of SE cor. of Sec. 12-12s-10w.
T.D. 6,910 ft.; prepare to drill deeper.
Texas Co.'s No. 14 State, 500 ft. SE of No. 13, Sec. 13-12s-10w.
Sidetracked 2,456 ft.
Texas Co.'s No. 15 State, Sec. 13-12s-10w.
Coring sandy shale 7,027 ft.
Yount Lee Oil Co.'s No. 13 Gulf Land, Sec. 14-12s-10w.
Drlg. shale 5,078 ft.
Yount Lee Oil Co.'s No. 1-A Gulf Land, 2,000 ft. S and 50 ft. E of the NW cor. of Sec. 22-12-10.
Rig up.

NEW IBERIA—IBERIA PARISH

Helis' No. 1 Sabatoir, 900 ft. N and 1,210 ft. E of SE cor. of Sec. 53-12s-7e.
Drlg. shale 1,310 ft.
Iberia Oil Corp. and Y. D. Spell's No. 2 Bernard, 150 ft. E of No. 1, Sec. 54-12s-7e.
S.D. 3,846 ft.; salt.

IOWA—CALCASIEU AND JEFF DAVIS PARISH

Shell Pet. Corp.'s No. 17 Heyd.
Drlg. lime 2,118 ft.
Shell Pet. Corp.'s No. 16 Heyd, 990 ft. S, 998 ft. W of NE cor. Sec. 13-9s-7w.
T.D. 6,884 ft., making electrical coring test.
Shell Pet. Corp.'s No. 4 Tuten, 330 ft. S, 1,819 ft. W of NE cor. SE¼ Sec. 13-9s-7.
T.D. 6,698 ft.; I.P. 890 bbls. oil; 4% wash wtr.; T.P. 975 lbs.; C.P. 975 lbs.

JENNINGS—ACADIA PARISH

Port City Oil Co.'s No. 15 Jennings-Haywood, 108 ft. E, 368 ft. S of NW cor. Sec. 41-9s-2w.
S.D. 1,600 ft.
Yount Lee Oil Co.'s No. 15 Houssiere-Latriele.
Rig up.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 36 Lake Barre.
T.D. 3,788 ft.; W.O.C.
Texas Co.'s No. 14 Lake Barre.
P.B. to 3,017 ft.; set whipstock.
Texas Co.'s No. 15 Lake Barre.
Coring 3,710 ft.

LEESVILLE—LAFOURCHE PARISH

Gulf Prod. Co.'s No. 6 Allen Lane, Sec. 26-21s-22e.
Coring oil sand 3,650 ft.
Gulf Prod. Co.'s No. 12 Bernard, Sec. 26-21s-22e.
Abd. location.
Gulf Prod. Co.'s No. 10 Bernard, 1,833 ft. E. 958 ft. S of NW cor. Sec. 26-21s-22e.
Abd. location.
Emerald Pet. Co.'s No. 10 State, west bank, 300 ft. S of well No. 1.
Location.
Emerald Pet. Co.'s No. 11 State, east bank, 227 ft. N of well No. 1.
Location.
Emerald Pet. Co.'s No. 12 State, east bank, 250 ft. S of well No. 1.
Location.
Texas Co.'s No. 34 La. Land & Exploration Co.
Drlg. shale 3,530 ft.
Texas Co.'s No. 32 Leesville, 890 ft. S, 2,484 ft. W of NE cor. SE¼ Sec. 27-21s-22e.
Building foundation.
Texas Co.'s No. 33 Leesville, 1,590 ft. S, 2,484 ft. W of NE cor. SE¼ Sec. 27-1s-22e.
Rig up.
Texas Co.'s No. 36 Leesville, 476 ft. E, 385 ft. E of NW cor. SW¼ Sec. 26-21s-22e.
Derrick.
Texas Co.'s No. 37 Leesville, 1,266 ft. N, 103 ft. W of SE cor. NE¼ Sec. 27-21s-22e.
Rig up.
Texas Co.'s No. 27 Leesville.
Drlg. salt 4,567 ft.

LOCKPORT—CALCASIEU PARISH

Union Sulphur Co.'s No. 6 Moss, located between No. 2 and No. 5 (W.O.).
Drlg. shale 6,714 ft.

PORT BARRE—ST. LANDRY PARISH

Emerson Trotter's No. 3 Sabille, 650 ft. S, 200 ft. E from NW cor. of Sabille tract, Sec. 20-6s-6e.
Drlg. shale 3,537 ft.
Port Barre Oil Co.'s No. 2 Sybil, 3,080 ft. N easterly along section line, thence 55 ft. at R/A to the east, Sec. 20-6s-5e.
S.D. 3,763 ft.

ROANOKE—JEFFERSON DAVIS PARISH

Classel et al's No. 1 La. Irrigation Mill Co., 695.5 ft. E and 475 ft. N of SW cor. Sec. 1-9s-4w.
Rig up.
Humble Oil & Refg. Co.'s No. 4 Devilbiss, 440 ft. S of N line and 440 ft. W of E line of Sec. 14-9s-4w.
16-in. csg.
Humble O. & R. Co.'s No. 1 Clayton, 2,283 ft. from S line, 440 ft. from E line, Sec. 10-9s-4w.
Drlg. shale 6,807 ft.
Humble O. & R. Co.'s No. 2 C. N. Taylor, 1,320 ft. E, 440 ft. S of NW cor. of SW¼ Sec. 13-9s-4w.
Rig up.
Humble O. & R. Co.'s No. 1 Nelson Thomas, 880 ft. W of No. 2 Kratzer, 440 ft. N and W of SE cor. of 200-ac. tract.
Drlg. shale and sand 9,622 ft.
Shell Pet. Corp.'s No. 1 Jarnigan, 330 ft. E, 660 ft. S. NW cor. Sec. 12-9s-4w.
T.D. 9,985 ft.; cemented 7-inch csg. on bottom; drlg. plug.
Shell Pet. Corp.'s No. 1-B Kratzer, 660 ft. N, 330 ft. E of SW cor. of SW¼ Sec. 1-9s-4w.
S.D. 8,828 ft.
Shell Pet. Corp.'s No. 4 Kratzer.
Drlg. plug 9,821 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 808 fee.
Drlg. sandy shale 2,778 ft.
Union Sulphur Co.'s No. 812 fee.
Drlg. shale 1,971 ft.
Union Sulphur Co.'s No. 800 fee.
T.D. 3,042 ft.; prepare to pump.
Union Sulphur Co.'s No. 811 fee.
Drlg. sand 2,845 ft.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 8 Wilbert.
Coring shale 6,180 ft.
Shell Pet. Corp.'s No. 1 White Castle Shingle Co., 1,930 ft. W, 100 ft. S from NE cor. of lease.
Drlg. shale 4,783 ft.
Shell Pet. Corp.'s No. 1 Adams, 2,340 ft. N, 100 ft. E of SW cor. of lease.
Coring shale 8,785 ft.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Deering & Kayser's No. 1 P. A. McClinton, 1,100 ft. from NW line and C NE and SW of 115-ac. tract in Thomas Bell Sur.
Drlg. shale 1,830 ft.; no report.
Paul English et al's No. 1 Felix Guhn, 1,000 ft. S, 360 ft. E from NW cor. of 71-ac. tract, D. Chomel Sur., 1 mile SE of Kinney.
Rig up.

BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 2 Houston Farms Dev. Co., 2,150 ft. SE, 5,800 ft. SW of N cor. of B.B.B.&C. Sur., in the Perry & Austin Sur.
Drlg. sandy shale 4,450 ft.
George Strake's No. 2 Truska, 991 ft. W of No. 1, H.T.&B. Sur., Sec. 7.
S.D. 6,000 ft.
Showers & Moncrief's No. 1 Hughey, 5,500 ft. NW of discovery well, in center of Lot 18, H.T.&B. Sur., Sec. 29, Abst. 292. Location.
Texas Co.'s No. 1 Freeport Sulphur Co., 2,764 ft. N, 1 deg., 40 ft. W and 1,134 ft. S, 88 deg., 20 ft. W of NW cor. of S. F. Austin Sur., Abst. No. 35, being in the Conception Arsola Sur.
T.D. 4,544 ft.; will perforate csg. below 3,700 ft.
Quintana Pet. Co.'s No. 1-B G. L. Wood, 2,778 ft. from W line and 5,555 ft. from S line of 1,483-ac. lease, Thomas Alsbury Sur.
Drlg. shale 1,150 ft.

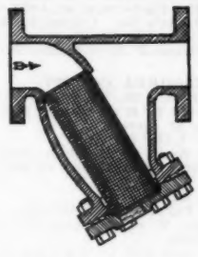
CALHOUN COUNTY

Continental Oil Co.'s No. 2 American National Realty Co., 660 ft. from NW line, 660 ft. from NE line of Sec. 6, Blk. C, Pedro Garcia Sur.
S.D. 6,522 ft.

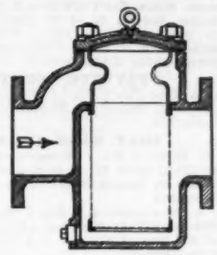
CHAMBERS COUNTY

R. A. Mason et al's No. 1 R. M. White, 3,125 ft. N of S line, 466 ft. W of E line of James McGahey Sur.
S.D. 4,875 ft. to repair bailer.

STRAINERS



- STEAM
- WATER
- OIL
- GAS
- AIR
- SERVICE



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COLORADO COUNTY

Clyde Creighton et al's No. 1 Witte, 150 ft. S and E of most westerly NW cor. of H. White Sur.
Prepare to spud.

Coyle & Concord's No. 1 fee, 550 ft. from N line, 1,950 ft. from E line of Sec. 45, I.&G.N. Sur.
Prepare to spud.

Trans. State Oil Co.'s No. 1 Frank Weinkuhn, 150 ft. E of W line, 150 ft. S of N line of 150-ac. tract, F. A. Zimmershield Sur.
Drlg. shale 1,320 ft.

FAYETTE COUNTY

Lewis Franklin's No. 1 V. Dybala, center of 75-ac. lease, A. Thompson Sur.
Location.

FORT BEND COUNTY

C. B. Bunte's No. 1 Winston, 1,495 ft. E of W line, 2,381 ft. N of S line of 350.6-ac. tract, S. Isaacs Sur.
Location.

W. A. Shafer et al's No. 1 V. B. Bortash, 493 ft. SW of NE line and 1,003 ft. NW of SE line of Sec. 52, H.&T.C. Sur.
S.D. 2,900 ft.

George White et al's No. 1 M. M. Cravins, 1,000 ft. from N, 300 ft. W of SW cor. of survey, B.B.B.&C. Sur. No. 8.
Rig up.

GALVESTON COUNTY

Coast Pet. Co.'s No. 1 Stewart, 3,416 ft. S, 200 ft. E of NW cor. of 143-ac. tract, W. K. Wilson Sur.
T.D. 8,016 ft.; fishing for stuck drill stem.

Gillock Pet. Co.'s No. 2 Maco Stewart, 900 ft. N and 150 ft. W of No. 1, Alex Farmer Sur.
T.D. 1,500 ft.; S.D.

GRIMES COUNTY

Dillinger & Hammer's No. 1 L. P. Lane, 150 ft. S of N line and 150 ft. W of E line of 65-ac. tract, R. P. Stewart Sur.
Derrick.

Hubert Holt et al's No. 1 Simon Fuqua, 1,200 ft. N of S line and 400 ft. W of E line of 177-ac. lease and survey, Moses Evans Sur.
S.D. 2,080 ft.

Dr. Marshall et al's No. 1-B Todd, 300 ft. from E line and 175 ft. from N line of 150-ac. tract in extreme NW cor. of county (25 ft. N of No. 1).
S.D. 2,786 ft.

Patton et al's No. 1 Yeager, 1,000 ft. W of E line, 170 ft. S of N line of 53-ac. tract and survey, A. Ruscoolic Sur., NW of Iola Sur.
S.D. 1,000 ft.

HARRIS COUNTY

Graham & Gardner's No. 1 Hager, 150 ft. out of SE cor. of 736.8-ac. tract, J. W. Clepton Sur.
Drlg. shale 3,325 ft.

Herbert-Still & Hooper's No. 1 Racker, 990 ft. E of W line, 4,290 ft. N of S line of J. C. Ogburn Sur.
Drlg. sandy shale 5,920 ft.

C. C. Foster et al's No. 1 H. K. Johnson, 2,000 ft. from S line and C of E and W lines of G.C.&S.F. Sur.
Drilled 25 ft. and S.D.

Stanolind Oil & Gas Co.'s No. 1 F. J. Burkey, C of Lot 15, Blk. 105, H.T.&B. Sur. No. 5.
Location.

Stanolind Oil & Gas Co.'s No. 1 C. F. Gibson, C of Lot 9, Blk. 41, H.T.&B. Sur. No. 5.
Location.

Stanolind Oil & Gas Co.'s No. 1 J. W. Horlow, C of Lot 10, Blk. 82, H.T.&B. Sur. No. 5.
Location.

Stanolind Oil & Gas Co.'s No. 1 Ed Wells, C of Lot 3, Blk. 16, H.T.&B. Sur. No. 5.
Location.

Stanolind O. & G. Co.'s No. 1 fee land, 330 ft. S, 300 ft. E of NW cor. of 20-ac. tract Sur., Sec. No. 5.
T.D. 5,000 ft.; 9⅝-in. csg. 4,831 ft.; tested S.W.; P.B. 4,885 ft.; cutting and pulling screen and liner.

JACKSON COUNTY

A. M. Harris' No. 1 Whitley, 800 ft. out of SE cor. of F. G. Keller Sur.
Location.

JASPER COUNTY

Marathon Oil Co.'s No. 1 Jasper County Lumber Co., 330 ft. out of NE cor. of 176.5-ac. tract 5 miles SE of Jasper, T. C. Holmes Sur.
Rig up.

JEFFERSON COUNTY

Humble O. & R. Co.'s No. 1 J. T. White, 330 ft. out of SW cor. of T.&N.O.R.R. Sur. No. 370.
Location.

Sun Oil Co.'s No. 1 Hebert & Braussard, 6,890 ft. NW along SW line and 660 ft. NE at right angles to SW line, B. Blackman Sur., Abst. No. 2.
Drlg. shale and lime 2,290 ft.

LIBERTY COUNTY

E. M. Bruner et al's No. 1 N. Bell, 150 ft. from N line and 150 ft. from W line of Bell's 187-ac. tract, H.&T.B. Sur. No. 4.
Rigging up.

Extension Oil Co.'s No. 1 J. A. Lovett, 330 ft. from E and 660 ft. from S line of lease, P. P. Deevers Sur.
S.D. 4,848 ft.

J. W. Frazier et al's No. 2 Lynott & Buffum, 466 ft. from N and E lines of 60-ac. tract in extreme SE part of survey, James Robeson Sur.
T.D. 7,851 ft.; P.B. 7,550 ft.; prepare to sidetrack.

D. H. Furse's No. 1 J. F. Kover, 300 ft. out of SW cor. of 100-ac. tract, J. R. Mayhon Sur.
Location.

Liberty-Independent Oil Co.'s No. 1 J. M. Neal, 2,550 varas from E line and 505 varas from N line of Samuel Strong Sur.
Reaming 4,130 ft.

A. L. Maxwell's No. 1 M. P. Hinchliff, 200 ft. from E line and 1,000 ft. from the N line of survey, H.&T.C. Sur., Sec. 10a.
T.D. 5,486 ft.; D.S. stuck.

Thomas et al's No. 1-A Eicke, 460 ft. from W line and 2,350 ft. from S line of tract in Green Sur.
T.D. 5,047 ft.; 6⅝-in. csg. at 5,020 ft.

Turnbull & Irwin's No. 1 Cox, 1,000 ft. from the E line and 200 ft. from S line of 108.2-ac. lease, F. J. G. Smiley Sur.
Location.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Feife, J. S. Criswell Sur., 3,000 ft. E of W line, 2,800 ft. N of S line of survey.
Drlg. shale 5,720 ft.

Dr. Griffith's No. 1 fee, 3,000 ft. from E line and 3,000 ft. from W line of Wm. H. Bell Sur.
Rig up and S.D.

Helmerich & Payne's No. 1 Hawkins, 850 ft. S, 70 deg. W of Cockburn Oil Co.'s No. 6 Hawkins.
Drlg. sand, lime and pyrites 3,695 ft.

Horace M. Smith, Inc.'s No. 1 Wadsworth ranch, 150 ft. out of S cor. of Lot No. 8, S. R. Fisher Sur.
T.D. 8,418 ft.; 7-in. csg. 8,376 ft.; standing, showing small amount of gas.

MONTGOMERY COUNTY

Travis Baker et al's No. 1 Foster Estate, 1,200 ft. E of W line and 700 ft. S of N line of Blk. No. 50, J. M. De La Garza Sur.
Derrick.

E. E. Bayland's No. 1 C. S. Atkinson, 220 ft. E of T.&B.B. R.R., and 650 ft. S of N line of Robbins George Sur. on 207-ac. tract N of Pinehurst.
Derrick.

Charles B. Gohlson's No. 1 Aaron Parks, 250 ft. from S line, 200 ft. from E line of Parks 139-ac. tract, J. Lindley Sur.
7-in. csg. cmtd. at 3,721 ft.; T.D. 3,773 swabbing mud, cut with oil and gas.

Paul Sanderson, trustee's No. 1 Texas Long Leaf Lbr. Co., 3,500 ft. W., 1,750 ft. S of NW cor., Wm. Barker Sur.
Drlg. shale 1,310 ft.

ORANGE COUNTY

Blue Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 300 ft. from E line and 180 ft. from NE line of Godwin 20-ac. tract.
S.D. 2,770 ft.

Ellis Oil Co.'s No. 1 G. W. Pell, 100 ft. from N and 300 ft. from W line of Pell tract in the J. M. Henerie Sur.
T.D. 2,055 ft.

Dick Schwab's No. 1 East Texas Canal Co., 330 ft. from the N and W lines of 234-ac. tract, John Jett Sur.
T.D. 6,585 ft.; prepare to deepen.

POLK COUNTY

Howard Daily et al's No. 1 Z. B. Knox, 1,450 ft. W and 1,920 ft. S of NE cor. of F. Chairs Sur., 16 miles NE of Corrigan.
S.D. 60 ft.

J. P. Anderson's No. 1 E. L. Duke (O.W. D.D.), 400 ft. from E and 350 ft. from S of SW cor. of P. Michelick 50-ac. lease, Abst. 59, P. J. Mineral Sur.
Waiting on a new mud pump; T.D. 5,304 ft.

J. W. Leggett et al's No. 1 Bergman, C of 294-ac. tract, or 1,100 ft. W of H.E.&W.T. R.R., J. T. Pinkney Sur.
Rig up.

Dick Schwab's No. 1 Lynch, 330 ft. out of NW cor. of 200-ac. tract in the George Jameson Sur.
Location.

REFUGIO COUNTY

Cecil Hagen et al's No. 1 Edith Clarkson, 1,736 ft. from N line, 3,520 ft. from E line of J. Coughlin Sur.
Location.

ROBERTSON COUNTY

H. L. Patton's No. 1 H. Ely, located on a 616-ac. tract, A. Manchola Sur.
Drlg. shale 3,210 ft.

SAN JACINTO COUNTY

Turnbull & Irwin's No. 1 K. Moore, 5,400 ft. from W line, 1,250 ft. from S line of lease, T. F. De Rumayor Sur.
Abnd. 4,875 ft.

Ralph Sturam et al's No. 1 R. B. Love et al, 475 ft. S of N line and 2,000 ft. W of E line of 177-ac. tract, Drury McGee Sur.
Moving in rig.

TRINITY COUNTY

Gulf Prod. Co.'s No. 2 Trinity County Lbr. Co., 5,772 ft. N along W line of A. E. Westall Sur. A-48 from NW cor. of H. S. and N. G. McGee 165.9-ac. tract, and being the most northerly SW cor. of Trinity County Lbr. Co.'s 2,697-ac. tract and 387 ft. E at R/A to said line.
Drlg. shale 1,460 ft.

VICTORIA COUNTY

Eastern States Pet. Co.'s No. 1 Henderson & Pickering, 330 ft. out of NW cor. of Lot 19, Wm. Rupley Sur.
Fishing.

Costa Oil Co.'s No. 1 Schovjass, 330 ft. out of N cor. of Lot No. 14, Wm. Rupley Sur.
T.D. 4,790 ft.; P.B. to 4,775 ft., perforated 7-in. csg. from 4,760-73 ft., spraying 10 bbls. per day through ⅛-in. choke; T.P. 375 lbs.; C.P. 900 lbs.

Eastern States Pet. Co.'s No. 1 Williams, 330 ft. out of S cor. of 130-ac. tract, E. Benavides Sur.
Rig up.

L. A. Gillespie and Superior Oil & Gas Co.'s No. 1 R. W. Brandt, 330 ft. from NE line, 330 ft. from NW line of tract No. 11, Henderson & Pickering Subd., Wm. Rupley Sur.
T.D. 6,255 ft.; tested part water; P.B. 4,921 ft.

L. A. Gillespie and Superior Oil & Gas Co.'s No. 1 John Janis, 330 ft. from SW line of survey and on the SE line of Nancy Dean Sur.
Top oil sand 4,746 ft.; T.D. 4,756 ft.; recovered 4 stands of oil, 7-in. csg. 4,737 ft.

Magnolia Pet. Co.'s No. 1 Henderson & Pickering, E offset to discovery well, Wm. Rupley Sur.
T.D. 6,113 ft.; prepare to core ahead, recovered 300 ft. of mud on drill stem test.

Martex Oil Co.'s No. 1 Mitchell, 330 ft. S of W line and 330 ft. N of W line of 500-ac. tract, E. Benavides Sur.
Drlg. shale 4,320 ft.

E. L. Smith Oil Co.'s No. 1 Henderson & Pickering, 330 ft. out of SE cor. of Lot 75, J. M. Bronson Sur.
T.D. 4,806 ft.; P.B. 4,770 ft.; 7-in. csg. 4,771 ft.; flowing into pits.

WALLER COUNTY

Diadem Oil Co.'s No. 1 Urban Estate, 1,100 ft. from the N line, 800 ft. from W line of survey.
Abnd. 4,905 ft.

WASHINGTON COUNTY

Powers Prod. Co.'s No. 1 Boenker, 550 ft. S, 250 ft. W from NW cor. of Dodson 160 acres, J. Newman Sur.
Abd. 1,777 ft.

WHARTON COUNTY

Texas Co.'s No. 2 Pierce Estate, 2,425 ft. S, 31 degrees 20 ft. E, 4,400 ft. N, 58 deg. 40 ft. E from W cor. of Pierce Estate Land, I.&G.N.R.R. Sur. No. 39.
T.D. 4,704 ft.; flowed 12 bbls. per hour through ¼-in. choke; T.P. 1,640 lbs.; C.P. 1,890 lbs.; will core ahead.

SOUTH LOUISIANA

ACADIA PARISH

Continental Oil Co.'s No. 1 T. Ortego, 990 ft. S, 500 ft. E of NW cor. SW¼ Sec. 28-7s-2w.
9⅝-in. at 6,303 ft.; drlg. wtr. sand 6,-901 ft.

Humble O. & R. Co.'s No. 1 American Rice Mills, 660 ft. S and 1,320 ft. W from NE cor. Sec. 27-10s-1e.
Shot off at 6,500 ft.; P.B. 5,720 ft.; perforated csg. from 5,654-5,720 ft.; recovered 65 bbls. of fluid, 20 per cent oil, 80 per cent water.

AVOYELLES PARISH

Southern State Pet. Co.'s No. 1 Boyette, 330 ft. N and 330 ft. E of SW cor. Sec. 28-2n-5e.
S.D. 3,887 ft..

BEAUREGARD PARISH

Chew & Kirby's No. 1 Long Bell Lbr. Co., 330 ft. S and W of C of NE¼ Sec. 26-2s-8w.
Drlg. shale 5,530 ft.

Richardson & Martin's No. 1 Southwest Lbr. Co.
Location.

CALCASIEU PARISH

Fred Oil Co.'s No. 2 Faizt, 262 ft. E and 83 ft. S of NW cor. SE¼ Sec. 26-8s-10w.
S.D. 3,525 ft.

Fohs Oil Co.'s No. 1 Airhart, 275 ft. W and S of NE cor. SW¼ SE¼ Sec. 14-9s-8w.
Drlg. shale 3,537 ft.

Fohs Oil Co.'s No. 1 Wasey, 275 ft. each way out of the NE cor. SW¼ of SE¼ Sec. 12-19s-8w.
Drlg. shale 6,875 ft.

Nicholas McCaleb's No. 1 Grey, 2,200 ft. S, 1,200 ft. E of NW cor. Sec. 22-8s-13w.
S.D. 850 ft.

Texas Co.'s No. 4 Nickerson, 2,062 ft. N, and 4,473 ft. W of SE corner Sec. 12-8s-12w.
Drlg. shale 6,300 ft.

Texas Co.'s No. 5 Nickerson, 2,826 ft. N, 3,192 ft. W of SE cor. of Sec. 12-19s-8w.
Location.

Texas Co.'s No. 6 Nickerson, 287 ft. N, 289 ft. W of SE cor. of NW¼ Sec. 13-19s-8w.
Location.

Union Sulphur Co.'s No. 11 State, 2,137 ft. S, 1,539 ft. E of NW corner of Sec. 12-9s-8w.
Rig up.

Union Sulphur Co.'s No. 2 Mayo Reeves.
Perforating csg. 5,125 ft.

Union Sulphur Co.'s No. 7 State, 1,316 ft. N and 199 ft. E of the SW cor. of Sec. 12-9s-8w.
Location.

Union Sulphur Co.'s No. 9 State, NW offset to Texas Co.'s No. 2 Nickerson.
Drlg. shale 6,759 ft.

Union Sulphur Co.'s No. 1 Castle, 326 ft. N and E of NW Sec. 13-9s-8w.
Fishing 6,473 ft.; P.B. 5,892 ft.

Union Sulphur Co.'s No. 1 Buhler, 1,465 ft. N and 425 ft. W of SE cor. Sec. 11-9s-8w.
Abd. 6,903 ft.

Union Sulphur Co.'s No. 6 State.
Abd.

Union Sulphur Co.'s No. 2 Powell, 1,279 ft. S, 1,621 ft. E of NW cor. Sec. 13-9s-8w.
T.D. 6,577 ft.; P.B. 6,400 ft.

Wheeler Oil Corp.'s No. 1 School Lot, 1,708 ft. E, 1,325 ft. N of SW cor. Sec. 16-9s-7w.
S.D. 3,720 ft.

CAMERON PARISH

Magnolia Pet. Co.'s No. 1 J. B. Broussard, 330 ft. E and S, out of NW cor. of the SW¼ of SE¼ of Sec. 13-12s-9w.
Reaming to straighten hole; T.D. 7,343 ft.

Steinberger Pet. Co.'s No. 1 Drew, 330 ft. out of NW cor. NE¼ of Sec. 26-10s-11w.
Location.

EAST BATON ROUGE PARISH

Superior Oil & Prod. Co.'s No. 1 Duplanter-Community, 1,500 ft. westerly along the N line from the NE cor. of D. A. and E. A. Duplanter's 130.7-ac. tract, thence 330 ft. at R/A.
P.B. 7,480 ft.; sidetracked at 7,594 ft.

EAST FELICIANA PARISH

Thompson Creek Oil Co.'s No. 1 Fannie Noland, 2,600 ft. E and 1,580 ft. N of SW cor. Sec. 70.
S.D. 1,589 ft.

EVANGELINE PARISH

Little Pigeon Oil Co.'s No. 1 McHugh, 1,300 ft. S, 229 ft. W of the NE cor. Sec. 26-12s-10e.
Moving in.

IBERIA PARISH

Meade Oil Co.'s No. 1 Hamilton, near town of Loze, in the NW cor. of parish.
Rig up.

Texas Co.'s No. 1 State Fausse Point.
Fishing 5,128 ft.

JEFFERSON DAVIS PARISH

Howard Naylor et al's No. 1 Johnson-Bordeaux, 1,734 ft. N, 52 deg. N, 45 min. E, and 1,853 ft. S, 37 deg. 15 min. E out of SW cor. Sec. 39-10s-3w.
Drlg. shale 3,630 ft.

ST. BERNARD PARISH

Emerald Pet. Corp.'s "Shell Beach Properties" No. 1, on S edge of Bayou Louis, Sec. 31-13s-15e.
Drlg. shale 5,930 ft.

ST. MARTIN PARISH

Texas Co.'s No. 7 St. Martin Land, 2,042 ft. N, 500 ft. W of SE cor. of Sec. 17-8s-7e.
Drlg. shale 5,148 ft.

VERMILLION PARISH

Moore Bros.' No. 1 Brussard, 350 ft. S of N line, 250 ft. E of W line, NE cor. Sec. 32-11s-3e.
S.D. 4,056 ft.

La.-Ark. Wildcats

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYELLES PARISH

Bell Oil Co.'s No. 2 Thompson-Koltz, 450 ft. S, 350 ft. E, NW cor. Sec. 11-2n-5e.
Partly R.U. and S.D.

Southern Star Pet. Co.'s No. 1 O. G. Boyette, Sec. 28-3-5e.
S.D. for high wtr. 3,875 ft.

BOSSIER PARISH

Bossier O. & G. Co.'s No. 3 Sherrill, 330 ft. N and W, SE cor. Sec. 13-19-12.
Drlg. 300 ft.

W. A. Kirkland's No. 1 Jarrett & McKeller, 330 ft. N and W, S cor. NW NW Sec. 3-21-13.
S.D.; rig repair, 2,268 ft.

Leonard Co.'s No. 1 Pearson, 250 ft. S and E of C Sec. 22-21-14.
T.A. 3,421 ft.

Richplane Oil Co.'s No. 1-A S. H. Bolinger, Sec. 22-22-13.
Coring 2,605 ft.

R. L. Skidmore et al's No. 1 Davis, Sec. 12-18-13.
Drlg. 1,720 ft.

Triangle Drlg. Co.'s No. 1-A State of La., Sec. 23-17-12, 1,000 ft. E, 2,640 ft. S, NW cor.
Coring 4,377 ft.

CADDO PARISH

Nick Babare's No. 1 Gibbs, Sec. 16-20-15. W.O.S.R. 2,265 ft.

Babare and Ark.-La. Gas Co.'s No. 1 fee, NE cor. SE SE Sec. 16-20-15.
Set 6-in. 2,220 ft.

J. Ed Bailey, tr.'s No. 1 Hartzo, NW cor. NE NW Sec. 28-22-16.
S.D. 1,236 ft.

Barnsdall Oil Co.'s No. 2 School fee, SE cor. NW SE Sec. 16-20-15.
Tested S.W. 2,265 ft.; P.B. to 2,230 ft.

Cal-La. Devel. Co.'s No. 1 Glassell, NW NE Sec. 11-19-15.
Set 10-in. 40 ft.

Holly Oil Co.'s No. 1 Thigpen & Herold, Sec. 15-20-15.
Drlg. 2,240 ft.

Hillman et al's No. 1 J. S. Noel Est., NE NE Sec. 12-20-16.
S.D. 1,514 ft.

F. D. Hyue's No. 1 Thigpen & Herold, 350 ft. S and E, C Sec. 5-15-16.
Set 10-in. 80 ft.; drlg. 400 ft.

A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. SE Sec. 4-14-16.
Used acid; W.O. 2,712 ft.

Leonard Co.'s No. 1 M. A. Dickson, 1,650 ft. S, 1,260 ft. E, NW cor. Sec. 36-21-16.
W.O.S.R. 2,234 ft.

Leonard Co.'s No. 2 Green, SW SW Sec. 8-20-15.
Set 7-in. 785 ft.; bailing 801 ft.

Murray Oil Co.'s No. 2 Noel, 495 ft. S, 735 ft. E, NW cor. SW Sec. 15-20-15.
Rigging up.

Press & Lambert's No. 2 Hughes, 350 ft. N and W of C Sec. 15-20-15.
Rigging up.

Recovery Oil Co.'s No. 1 W. L. Sibley, Sec. 15-19-14.
Arranging to set csg. 2,448 ft.

J. T. Reese's No. 1 Waskom, 330 ft. S and W, NE cor. Sec. 30-19-16.
S.D. 1,030 ft.

Texas Co.'s No. 4 School fee, Sec. 16-20-15.
Drlg. 2,198 ft.

A. C. Scott et al's No. 1 Noel Est., 330 ft. S and E, NW cor. Sec. 22-20-15.
W.O.S.R. 2,261 ft.

Shreveport Oil Corp.'s No. 5-B Muslow, 150 ft. S, 1,320 ft. E, NW cor. Sec. 9-20-15.
W.O.S.R. 2,174 ft.

Texas Co.'s No. 2 Thigpen, 300 ft. S and E, C Sec. 15-20-15.
Set 6-in. 2,152 ft.

CALDWELL PARISH

Critchell & Woods' No. 1 Kraft, 330 ft. N and W, SE cor. NW NE Sec. 18-11-3e.
Arranging set 6-in. 1,703 ft.; T.D. 1,-716 ft.

G. D. Davis' No. 1 La.-Central Lbr. Co., Sec. 14-11-3e.
Washing to bottom 1,850 ft.

G. W. Zeigan et al's No. 1 La.-Central Lbr. Co., 175 ft. S and E, NW cor. SW SW Sec. 25-13-3e.
S.D. 569 ft.

CLAIBORNE PARISH

E. T. Oakes' No. 1 H. W. Patton Est., 660 ft. S and W, NE cor. Sec. 1-20-5w.
Set 12½-in. 654 ft.

DESOTO PARISH

E. B. Bird et al's No. 1 J. H. Johns, 330 ft. N and W, center Sec. 20-14-6.
S.D.; W.O. 2,630 ft.

DeSoto Pet. Co.'s No. 1 B. Y. Wemple, C 8½ SE NE SW Sec. 14-12-11.
Arranging to set csg. 2,590 ft.

E. L. Foster's No. 1 Youngblood, Sec. 9-11-14.
Set 7-in. 2,735 ft.; T.D. 2,860 ft.

P. G. Fraley et al's No. 1 G. R. Stell, 330 ft. S and W, NE cor. Sec. 5-12-16.
R.U. and S.D.

Hunter Co.'s No. 1 DeSoto, 660 ft. S, 1,-320 ft. E, NW cor. Sec. 29-12-14.
Rigging up.

Leslie Prod. Co.'s No. 1 Ramsey, 150 ft. N and W of C Sec. 36-11-11.
Set 10-in. 45 ft.

National Oils, Inc.'s No. 1 B. Y. Wemple, NW SW Sec. 14-12-11.
S.D. 120 ft.

C. T. Ruffins' No. 1 Lee, 400 ft. S, 334 ft. E, NW cor. SW Sec. 33-14-13.
Set 7-in. 2,785 ft.

Ed Saffold et al's No. 1 Thigpen, 400 ft. S, and 308 ft. W, NE cor. SW NE Sec. 33-13-13.
W.O.S.R. 1,730 ft.

EAST CARROLL PARISH

Century Oil & Drlg. Co.'s No. 1 Olive Dell, 460 ft. S, 300 ft. W, NE cor. Sec. 56-21-21e.
Drlg. 830 ft. in new hole.

JACKSON COUNTY

American Liberty Oil Co.'s No. 1 Lusk, C NE NE Sec. 1-16-1w.
Drlg. 1,810 ft.

LA SALLE PARISH

H. L. Hunt, Inc.'s No. 1-A King, 225 ft. S, 210 ft. E, NW cor. NE NW Sec. 36-10-1e.
Blowing S.W., 1,524 ft.

MADISON PARISH

San. Land & Exploration Co.'s No. 1 Delta Land Co., Sec. 1-17-12e.
Set 12½-in. 200 ft.; T.D. 280 ft.

MOREHOUSE PARISH

Carbon Consolidated's No. 1 Archie, 560 ft. S, 330 ft. E, NW cor. SW Sec. 22-20-4e.
Comp.; 11,000,000 ft. gas, 2,136 ft.

Carbon Consolidated's No. 2 Archie, 560 ft. S, 990 ft. E, NW cor. SW Sec. 22-20-4e.
Set 6-in. 2,085 ft.

J. H. Gibson, tr.'s No. 1 Thomas, 330 ft. S and W, NE cor. Sec. 16-22-7e.
Rigging up.

Zeiger & Bacon's No. 2 Crossett Lbr. Co., 3,870 ft. N, 505 ft. E, SE cor. SE SW of Sec. 36, in Sec. 41.
S.D. 50 ft.

OUACHITA PARISH

American Liberty Oil Co.'s No. 1 Golson, C NW Sec. 25-17-1e.
Drlg. 1,800 ft.

G. E. Gordon, tr.'s No. 4 Rea-Green, 1,078 ft. S, 1,122 ft. W, NE cor. SE Sec. 2-18-4e.
Milling out 4½-in. 2,141 ft.

Pioneer Gas Co.'s No. 1 Filhoil, 2,436 ft. N, 307 ft. W, common cor. Sec. 11-18-4e.
S.D. 2,216 ft.

NATCHITOCHES PARISH

Clyde Crichton's No. 1 Friedman Est., 406 ft. N, 428 ft. E, SW cor. Sec. 52-7-6.
Arranging run Schlumberger 3,560 ft.

Ab Jones' No. 1 Brown Lbr. Co., 400 ft. N. 330 ft. W, SE cor. Sec. 5-10-10.
S.D. 1,033 ft.

RED RIVER PARISH

Sterling O. & R. Co.'s No. 1 Long Bell, Sec. 19-13-9.
Arranging to test 1,175 ft.

J. S. Tuffree's No. 1 Wilkinson, 1,320 ft. S and W, NE cor. Sec. 11-12-11.
S.D. 1,395 ft.

SABINE PARISH

G. H. Collins' No. 1-C Cranford, 330 ft. S and E, NW cor. SW NW Sec. 28-9-13.
Tested S.W. 2,077 ft.

M. T. Hines' No. 1 J. B. Hill, SW NE Sec. 4-6-11.
S.D. 2,612 ft.

Jack Lent's No. 1 Williams, Sec. 13-7-11.
S.D. 1,820 ft.

Lee Whitehurst et al's No. 1 Frost Ind., C SE SW Sec. 20-9-13.
Set 10-in. 41 ft.; set 6-in. 1,490 ft.

Windsor Oil Co.'s No. 1 Latham, 375 ft. N, 330 ft. E, SW cor. SE SE Sec. 16-9-13.
Set 12-in. 75 ft.

UNION PARISH

Carbon Consolidated's No. 1 Feazel, 990 ft. S, 660 ft. E, C Sec. 8-20-3e.
Rigging up.

Crescent Drlg. Co.'s No. 1 Woo'le, SE cor NW NW Sec. 34-19-1e.
S.D. 1,391 ft.

W. B. Inabnett's No. 1 fee, 417 ft. S, 833 ft. W, NE cor. NW Sec. 11-20-3e.
Set 10-in. 110 ft.; set 6-in. 2,128 ft.

Southern Prod. Co.'s No. 1 Clark, 500 ft. N and W, SE cor. NW NW Sec. 17-23-1e.
S.D. 2,396 ft.

ARKANSAS

ARKANSAS COUNTY

Grand Prairie Realty Co.'s No. 2 Fischer, 412 ft. S, 12 ft. W, NE cor. NW NW Sec. 6-6-4w.
W.O. csg. 118 ft.

ASHLEY COUNTY

Glenn E. McFaddin et al's No. 1 Boreine Farms, 660 ft. S and W, NE cor. Sec. 1-18-8.
S.D. 2,800 ft.

COLUMBIA COUNTY

Southern States Gas Co.'s No. 1 Piney Woods Lbr. Co., 330 ft. N and E, SW cor. NE NW Sec. 10-20-22.
S.D. 960 ft.

HEMPSTEAD COUNTY

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26.
S.D. 1,992 ft.

F. W. Martin's No. 2 Lafferty, C NW Sec. 17-14-24.
Rigging up.

LAFAYETTE COUNTY

Kamon & Neely's No. 1 Cockran, NW cor. SE SW Sec. 26-19-25.
Reaming 4,100 ft.

MILLER COUNTY

M. D. K. Fitzwater's No. 1 E. H. Beck, 150 ft. N and E, SW cor. NW SW Sec. 34-15-26.
Set 6-in. 2,910 ft.; T.D. 2,917 ft.

Fitzwater et al's No. 1 Norson, SW cor. SE SW Sec. 20-15-27.
S.D. 3,177 ft.

King Oil Corp.'s No. 1 C. H. Schroder, 200 ft. N, 330 ft. E, SW cor. SW NE Sec. 24-14-28.
S.D. 3,167 ft.

King Oil Corp.'s No. 1 Anderson, 350 ft. E, 200 ft. S, NE cor. SW NE Sec. 16-14-27.
S.D. 2,573 ft.

Magnolia Pet. Co.'s No. 8 Olivet, 336 ft. S and W, NE cor. NW NW Sec. 3-16-26.
Swbng. to test 2,938 ft.

Frank Roe et al's No. 1 Frost Est., 150 ft. N and W, SE cor. SE SW Sec. 3-15-26.
Set 10-in. 120 ft.

Lee Timberlake's No. 1 Frost Est., 330 ft. N and E, SW cor. SW SE Sec. 27-15-26.
S.D. 3,100 ft.

NEVADA COUNTY

Carnett et al's No. 1 Floyd Munin, C SW Sec. 16-14-22.
S.D. 50 ft.

OUACHITA COUNTY

Walter Lown et al's No. 1 Arnold, Sec. 24-15-16.
Coring 2,420 ft.

Snow Black Pet. Co.'s No. 1 O. F. Wyman, NW SW Sec. 36-11-16.
Drlg. 1,296 ft.

SEVIER COUNTY

Pendleton & Vaughn's No. 1 J. E. Johnson, 330 ft. E. 165 ft. S, NW cor. SW Sec. 35-9-30.
Dry and abd. 1,180 ft.

UNION COUNTY

Gardy Drlg. Co.'s No. 1 Craig, Sec. 35-17-15.
S.D.; W.O. 2,211 ft.

Gulf Ref. Co.'s No. 49 L. Werner, 4,620 ft. N, 60 ft. E, SW cor. Sec. 5-16-16.
Coring 6,436 ft.

H. L. Hunt's No. 15 E. F. Gregory, 330 ft. N and W, SE cor. Sec. 10-17-14.
Arranging to blow with air, 3,478 ft.

H. L. Hunt's No. 18 E. F. Gregory, 330 ft. N and E, SW cor. Sec. 11-17-14.
Derrick.

Mrs. R. K. Jones et al's No. 1 Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-16-14.
S.D. 3,202 ft.

McCreslenn Oil Co.'s No. 2 Parker, 420 ft. W, 230 ft. N, SE cor. NE SE Sec. 3-18-13.
Set 7-in. 3,544 ft.

C. E. Murdock's No. 1 Pumphrey, C SW NW NE Sec. 11-17-14.
Derrick.

F. F. Roberts et al's No. 1 Galion Lbr. Co., 330 ft. S and E, NW cor. NW SE Sec. 10-16-14.
Set 10-in. 104 ft.

MISSISSIPPI

AMITE COUNTY

Mineral Resources, Inc.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e.
S.D. 550 ft.

BOLIVAR COUNTY

White & Jones' No. 1 Ballou, SE SE NW Sec. 17-24n-7w.
Drlg. 890 ft.

CLARKE COUNTY

L. Beckwith et al's No. 1 Long Bell Lbr. Co., 538 ft. S, 125 ft. W of C Sec. 10-2n-16e.
T.A.; lack of funds.

Clarke County Oil Co.'s No. 1 Dora Butler, C SW SW Sec. 15-2n-16e.
Set 10-in. 63 ft.

HARRISON COUNTY

Big Ridge Oil Co.'s No. 1 Hinzin, NE Sec. 13-7s-10w.
S.D.; W.O. 1,100 ft.

LAUDERDALE COUNTY

Bob Dalton's No. 1 Bounds, Sec. 34-7n-15e.
S.D.; W.O. 1,600 ft.

MONROE COUNTY

P. J. McAlpine's No. 1 Frank Rye, Sec. 15-15s-17w.
T.A. 2,931 ft.

P. J. McAlpine's No. 1 Crook, 1,090 ft. S, 90 ft. W, NE cor. Sec. 15-13s-13w.
S.D. 2,500 ft.

RANKIN COUNTY

Cleve Love et al's No. 1 Ascher, 520 ft. S and E, NW cor. NE NE Sec. 18-5n-2e.
Drlg. 1,575 ft.

SIMPSON COUNTY

Berry Corp.'s No. 2 R. T. Berry, Sec. 33-2n-4e.
O.W.D.D.; S.D. for fuel at 2,510 ft.

WARREN COUNTY

H. W. Elliott et al's No. 2 R. L. Parker, 780 ft. E, 1,570 ft. S, NW cor. Sec. 14-14n-1e.
S.D.; high wtr. 1,600 ft.

WASHINGTON COUNTY

Perkins & Dees' No. 1 Lee, 1,500 ft. E, 500 ft. N, SW cor. Sec. 33-15n-3w.
S.D. 2,175 ft.

WINSTON COUNTY

Jack Vale et al's No. 1 Moody, 713 ft. N, 667 ft. E, SW cor. NW SW Sec. 3-13n-14e.
S.D. 1,890 ft.

La.-Ark. Proven

NORTH LOUISIANA

CADDO—BODESSA

United Gas Public Service Co.'s No. 2 Caddo Levee Board, 1,126 ft. S, 25 ft. E, NW cor. Sec. 26-23-16.
Rigging up.

United Gas Public Service Co.'s No. 1 D. F. Barr, 1,320 ft. N, 1,551 ft. W, SE cor. Sec. 29-23-16.
Drlg. 4,987 ft.

United Gas Public Service Co.'s No. 1 I. L. Young, C E½ SE Sec. 21-23-16.
Fishing for core bit 5,808 ft.

SABINE PARISH—ZWOLLE

Alexander & Crane's No. 1 Fogman, SE cor. N½ SW NE Sec. 18-7-11.
S.D. 2,620 ft.

Ivan A. Allen's No. 1 La. Long Leaf, 330 ft. N and W, SE cor. NW SE Sec. 12-7-11.
S.D. 2,120 ft.

H. C. Maulding's No. 1 Davis, 350 ft. N and W, SE cor. NE NE Sec. 2-7-11.
S.D. 150 ft.

K. C. Peterson et al's No. 1 Bowman-Hicks, 330 ft. S and E, NW cor. SW NW Sec. 2-7-9.
Derrick down.

Hunter Co.'s No. 16 Sabine Lbr. Co., 2,640 ft. E. 660 ft. N, SW cor. Sec. 12-7-12.
Set 6-in. 2,424 ft.

Texas Co.'s No. 1 Mary Cutrer, 666 ft. W, 671 ft. N, SE cor. NE Sec. 11-7-11.
Rigging up.

Tex.-La.-Ark. Oil Co.'s No. 1 Pickering Lbr. Co., Sec. 3-3-12.
S.D. 2,742 ft.

EAST TEXAS (BORDER COUNTIES)

HARRISON COUNTY

R. C. Payne et al's No. 1 Lowery, H. D. Spain Sur.
P.B. to 3,624 ft.

MARION COUNTY

Ed S. Holman's No. 1 Henderson, R. Bennington Sur.
P.B. to 2,443 ft.

PANOLA COUNTY

R. A. Graddy's No. 1 M. J. McCormick, J. McAdams Sur.
Moving in rig.

George Hudson et al's No. 1 J. F. Nail, C. McGeary Sur.
Set 8-in. 40 ft.; fishing for core bbl. at 2,345 ft.

Geo. Le Grand's No. 1 P. J. Wardleigh, A. Thompson Sur.
Set 10-in. 62 ft.

R. W. Price's No. 1 Crawford, J. A. Williams Sur.
Set 10-in. 64 ft.

Fred Stovall Drlg. Co.'s No. 1 H. D. Ivey, P. Martin H.R.S.
S.D. for csg. 1,980 ft.

SHELBY COUNTY

Cliff Stoval's No. 1 Pickering Lbr. Co., C. H. Patterson Sur.
S.D.; rig repair, 1,485 ft.

ALABAMA

COVINGTON COUNTY

Geometer Prod. Corp.'s No. 1 Culbreath, SW cor. SW NE Sec. 8-2n-14e.
Drlg. 6,135 ft.

HOUSTON COUNTY

Rice O. & G. Co.'s No. 1 Oakley est., SE cor. NW SW Sec. 9-3n-29e.
S.D. 2,776 ft.

LAMAR COUNTY

DeSoto O. & G. Corp.'s No. 1 Gardner, Sec. 22-15s-16w.
Drlg. 4,325 ft.

WALTON COUNTY—FLORIDA

Geometer Oil Corp.'s No. 2 Walton Land & Timber Co., Sec. 10-1s-19w.
Drlg. core tests on block; R.U. and S.D.

Southwest Texas Wildcats

Week Ending June 29

ATASCOSA COUNTY

R. G. McIntyre et al's No. 1 H. W. Billime, J. D. Woodlief Sur.
M.I.M.

BANDERA COUNTY

Milam Drlg. Co.'s (Plateau Oil Co.) No. 1 Garrison, G.C.&S.F. Sur. No. 506, 1,500 ft. from W and 2,970 ft. from N lines of survey.
Standing 3,409 ft.; changing contractors and rigs; ready to resume drlg.

Palm Winn Oil Co.'s No. 1 Watson, Sur. No. 71 (workover).
T.D. 1,700 ft.; setting csg.

BASTROP COUNTY

Malone & Owens' No. 1 Spooner, 500 ft. from N line, 3,550 ft. from SW line of Leverenz Sur.
Drlg. 2,178 ft.

Monts & Beavens' No. 1 Leatherwood, 320 ft. from NW line and 550 ft. from NE line, Wm. McLanglin Sur.
M.I.M.

BEE COUNTY

Bryce McCandless' No. 1 J. J. Grissom, 330 ft. SW and SE lines of 80-ac. tract in W. W. Gant Sur.
Spudded.

John Deering's No. 1 J. A. Pullin, 330 ft. out of SW cor. of Pullin E 80-ac. tract, W. W. Grant Sur.
Drlg. below surface csg.

Dirks' (Bennett & Calloway) No. 1 Miller, 330 ft. from E line, 937 ft. from N line of 6.74-ac. tract, C. Rivas Sur.
Abd. dry, 4,614 ft.

Dirks Bros. and McMurry's No. 1 Johnson, 1,050 ft. S line, 150 ft. E line of tract, Uranga grant.
Drlg. 2,800 ft.

Firm Oil Co.'s No. 1 Copeland, 1,650 ft. from N line, 330 ft. from E line of lease, B. O. Hadley Sur.
Drlg. 3,413 ft.

G. M. Church's No. 1 J. C. Woods, 330 ft. from N line, 330 ft. W of road, J. Ryan Sur., H.&G.N.R.R., Abstract 186.
Rigging up.

Humble O. & R. Co.'s No. 1 Wood, 466 ft. out of SE cor. of 3,000-ac. tract, Wm. Burke Sur.
Drlg. 4,153 ft.

Humble O. & R. Co.'s No. 2 Thompson, 466 ft. SW of SE cor. of J. C. Wood tract, 466 ft. SW on line parallel to E line, Wm. Burke Sur.
Abd. 5,930 ft.

F. P. Hynes' No. 2 Plummer, F. J. Chessman Sur. 1, 40 ft. W of No. 1.
Spudded.

D. V. Smith et al's No. 1 Atkins, M. M. Wood Sur.
Moving in material.

BEXAR COUNTY

Cherokee Drlg. Co.'s No. 1 Chapman, 2,100 ft. from S line, 3,200 ft. from E line, A. J. Leslie Sur.
S.D. 400 ft.

Jas. B. Cunningham's No. 1 L. F. Ridder, 950 ft. S of Nelson Road, 1,300 ft. from E line, Block 5,196, Sur. No. 58.
Sand 485-519 ft.; putting on rotary.

McPhee & Briggs' No. 1 F. Lamb, 9,200 ft. from S line, 800 ft. from W line of Sur. No. 3 (Manuel de Luna).
Shale 2,135 ft.; whipstocking and sidetracking; no report.

Mid-Texas Prod. Co.'s No. 1 C. G. Walker, cor. of Lot 21, 1½ miles E of Shadowland.
Rigging up; ready to spud.

Thelma O. & G. Co.'s (Noble & Akins) No. 1 DeVilbiss.
T.D. in Taylor 2,238 ft.; showing oil; trying to complete.

Carroll C. Raborn's No. 1 Claude McCauley, 150 ft. from N and NW lines of tract in Sec. 52, Wm. Harrison Sur.
Sand showing some oil 660 ft.; set csg.

C. C. Raborn's No. 1 A. B. Stephens, 1,630 ft. from N line, 1,540 ft. from W line of tract, P. B. Hayes Sur. No. 3.
S.D. 415 ft.

BLANCO COUNTY

H. T. Roe and W. E. Nixon's No. 1 Polk Morrisey, 2,000 ft. from W line, 1,000 ft. out of SE cor., 1,600 ft. from N line of Thomas H. Webb Sur. No. 91.
100 ft.; no report.

CALDWELL COUNTY

Ogden & Reed's No. 1 Mrs. H. Brewer, 1,-

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900 ft. from NE line, 150 ft. from SE line of tract in Martinez Sur.
T.D. 1,745 ft.; set csg.; making test.

DEWITT COUNTY

Reginald F. Baurke's No. 1 W. C. Steinman Est., 937 ft. from N and S lines. Uriah Blue 1-3 League.
M.I.M.

DUVAL COUNTY

Benedum & Trees' No. 1 G. B. Parr, 6,600 ft. from N line, 3,960 ft. from W line of tract, San Andres grant.
W.O.C. 506 ft.

T. J. & M. Drlg. Co.'s No. 1 Davidson, 2,-770 ft. S line, 330 ft. W line of Sur. 90.
S.D. 1,451 ft.

Magnolia Pet. Co.'s No. 2 Bennett, 887.5 ft. from S line, 664 ft. from E line of Sec. 432, S.K.&K. Sur.
Drlg. 3,580 ft.

J. J. O'Byrne's No. 1 Ball, 330 ft. from S and W lines of Tract 3, Santas Flores grant.
Drlg. 3,500 ft.

Parr Oil Co.'s No. 1 Bishop Cattle Co., 330 ft. from S and W lines of NE ¼ of Sur. 74.
Drlg. 1,500 ft.

FAYETTE COUNTY

Ross Fenton's No. 1 Kasper (263-ac.), 3,-000 ft. from NE line, 1,280 ft. from SW line, of Thos. Green Sur. No. 28.
Checking titles.

FRIO COUNTY

Midland Oil Co.'s No. 1 Joint Stock Land Bank, 300 ft. from NE and SE lines of 60-ac. tract, B.S.&F. Sur.
Spudded.

GOLIAD COUNTY

Keystone Royalty Co.'s No. 1 M. Woods, SW part of county, 15,000 ft. from SW line, 5,000 ft. from NW line of J. Sherman Sur.
S.D. 5,820 ft.

Turnbull & Irwin's (Walter Taber et al) No. 1 Hanley, 370 ft. S. 100 ft. E of NE cor. of 2,400-ac. tract, in Daley Sur.
Abd. 4,580 ft.

GONZALES COUNTY

Research Prod. Co.'s No. 1 Lanbeck, 708 ft. from NW line, 1,919 ft. from SW line, J. M. Salinas Sur.
Moving in material.

GUADALUPE COUNTY

Bob Gode et al's No. 1 Hicks, 1,320 ft. from E line, 150 ft. from S line of 139-ac. tract in Santo Y. Coy Sur.
Reaming at lower csg.; T.D. 415 ft.

A. D. Lackey's No. 1 Lowman, 210 ft. from SE and SW lines of 2,500-ac. tract in C. Campbell Sur.
T.D. 1,810 ft.; S.D.

Mineral Oil Corp. of Texas' No. 1 Allen Phillips, 162 ft. from N line, 900 ft. from E line of tract, Cortinos Sur.
S.D. 888 ft.

W. A. Scrutchin's No. 1 A. H. Smith, 150 ft. from E line, 1,350 ft. from N line of 24.5-ac. tract, Jas. B. Cowan Sur.
S.D. 550 ft.

J. S. Suttle's No. 2 Baensziger, S of Seguin. Old well; R.U. to W.O.

Suttle et al's No. 1 Baensziger, 700 ft. from S line, 500 ft. from E line of 125-ac. tract, Monsola Sur.
T.D. 2,153 ft.; knocking out bridge.

W. J. Walton's No. 2 Zaboroski, 180 vrs. (500 ft.) SW of No. 1, 190.8 vrs. (530 ft.) S of Guadalupe River, 225-ac. tract, J. D. Clements Sur. No. 14.
Drlg. 2,177 ft.

HIDALGO COUNTY

Bluff Pet. Co.'s No. 1 Porcion Land Co., 330 ft. from N and E lines of NE 100 acres of S 500 acres of Share 14, Por. 49.
Drlg. 4,000 ft.

E. A. Davis' No. 1 Flores, 65 ft. from N line, 25 ft. from W line, Tract 312, Porcion 38.
Coring 2,980 ft.

Downey & Morton's No. 1 Daskom, 450 ft. from E line, 55 ft. from S line of Blk. 24, Por. 45.
T.D. 4,415 ft.; recmtg.

Madox Turnbull & Irwin's No. 1 J. H. Sharp, 320 ft. N and E lines of Tract 21, Porcion 59.
Spudded.

Nedler & Graham's No. 1 Oscar Daskom, center of Blk. 42, Porcion 45.
Derrick wrecked; location.

JIM HOGG COUNTY

Darby Pet. Co.'s No. 1 Holbien, 330 ft. out of SW cor. of Lot 57, Sur. 5, Los Animas grant.
Drlg. 3,700 ft.

Miller & Pippin's No. 1 Yeager, 527 ft. S line, 150 ft. E line of Blk. 6, Sur. 20.
Fishing 2,550 ft.; no report.

A. W. Phillips' No. 1 Allen, 660 ft. from S and E lines of Blk. 292, Pippin Subd. of the Randado grant.
Moving in material.

Sun Oil Co.'s No. 1 L. R. Brooks, 7,500 ft. from N and W lines of tract, Santo Domingo de Abajo grant.
Drlg. 3,245 ft.

JIM WELLS COUNTY

Sunray Oil Co.'s (A. M. Hagan) No. 1 Robert Adams, 330 ft. N and E of SW cor. Sec. 10, M. Ruiz Sur.
R.U.; completing wtr. well.

Smith & Story's (Maer & Shira) No. 1 Schaefer, 1,320 ft. E of NW cor. center of Blk. 15, of subdivision of ranch.
Abd. 5,502 ft.

KARNES COUNTY

Jim Kendrick's No. 1 Radford, J. Pointevent Sur. on the Seegter tract.
Abd. 4,000 ft.

W. C. McBride's No. 1 Boultinghouse, 643 ft. from SE line, 618 ft. from SW line of J. S. Menefee Sur.
Coring 2,650 ft.

H. A. Pagenkopt No. 1 Sohm, NW cor. of 160-ac. tract, E. H. Garrett Sur. No. 257.
Spudded and set surface csg.

Harry Semple's No. 1 Seeger, 330 ft. from W line, 330 ft. SW of road, J. Pointevent Sur.
Drlg. 3,008 ft.

R. G. Tonkin's No. 2 Henke, 3,670 ft. from SW cor., 330 ft. from W line (location changed).
Location site cleared and pits completed.

KENDALL COUNTY

J. E. Freeman's No. 1 J. M. Gerfers, 1,200 ft. out of SW cor. of 119-ac. tract, Mark Hodgson Sur., Sec. 796.
100 ft.; no report.

KERR COUNTY

Emerald Oil Co.'s (Meteor Oil Co.) (Edminton & Walker) No. 1 Whitworth, 1,160 ft. from S line and 1,333 ft. from E line of Sec. 1,439 of the H.E.W.T. Sur.
S.D. in lime 800 ft.

G. F. Schreiner et al's No. 3 Jeff Love, 1,-500 ft. SE of No. 1 and 1,530 ft. from SE cor. and 300 ft. from N line of Sec. 1,591.
T.D. 5,625 ft.; porous lime; S.W. 5,622-25 ft.; S.D.

KLEBERG COUNTY

Parr & Ponder's No. 1 Sam Michalk et al, 330 ft. from N line and 775 ft. from S line, Blk. 37, Sec. 5; 5 miles SE Kingsville.
S.D. 1,050 ft.; cleaned out to 100 ft.

LASALLE COUNTY

Killingsworth Oil Co.'s No. 1 Yeager, Sur. 94.
T.D. 2,012 ft.; sand 1,499-1,710 ft.; cmtd. csg.; standing.

LEE COUNTY

McNeill Pet. Co.'s No. 1 Batey, 3,700 ft. from SW line, 4,200 ft. from SE Line, Wm. Nichols Sur.
M.I.M.

Scharbach & Stowe's No. 1 Robert Otto.
Sand 2,450 ft.; small show oil; standing.

LIVE OAK COUNTY

Henderson Coquat's No. 1 Reagan, McGloin Sur., E of Nueces River and S of Oakville.
S.D. 1,560 ft.

Gem Oil Co.'s No. 1 J. E. Lyne, (3,700 ft. from Devonian-Penn's No. 1 Lyne, dry hole) M. M. Lyne Sur., B.B.&M. Grant, Sec. 134, A-178.
Spudded.

Lefevre, Spice & Feltner's No. 1 Carter Inv. Co. (Chappa ranch), 330 ft. from SW cor. NE quarter of Sec. 299, Hooper & Wade Sur.
Abd. 4,250 ft.

Ray Nixon's No. 1 Chamberlain, 150 ft. from E line, 950 ft. from N line of Sec. 174, William Hill Sur.
M.I.M.

McMULLEN COUNTY

John O. Gibson's No. 1 Mazur & McDowell, 330 ft. from N and W lines, Sec. 19, Blk. 4, H.T.&B. Sur.
S.D. 505 ft.

J. O. Gibson's No. 1 G. C. West (Lowe), 150 ft. E line, 1,200 ft. S of NW cor. of Lot 1, Blk. 4, H.T.&B. Sur.
S.D. 465 ft.

Henderson Coquat's No. 1 Ezzell, midway N and S lines, 2,000 ft. from SE line, D. R. Fant Sur.
T.D. 765 ft.; making gas; standing.

Howard & Carpenter's No. 1 Jungman, 1,-020 ft. from E line, 950 ft. from S line, Hely Sur.
Drlg. 800 ft.

Chas. A. Hall's No. 1 B. C. Claunch, 368 ft. from N line, 150 ft. from E line of 25-ac. tract, Michael Haley Sur.
Location.

Loma Oil Co.'s No. 1 Dickinson, Sparks Sur., 880 ft. from E line, 880 ft. from NW line of Farm 13, 160-ac. tract, James Dickinson Subd. of McCowen ranch.
Abd. 960 ft.

Points et al's No. 1 Fahler, 432 ft. S line, 819 ft. E line of tract, Byrna pasture.
Standing 800 ft.

C. C. Shumway's No. 8 Shiner, 330 ft. out of NE cor. of SE quarter of Sec. 53, C. C. Shumway Subd.
Abd. 1,905 ft.

MEDINA COUNTY

Joe Dupree's No. 1 Batto, 258 ft. from E line, 957 ft. from N line, J. Ball Sur. No. 1,478.
T.D. 410 ft.; swbng.

O. L. Gates and H. W. Hill, Jr.'s No. 1 Odom, 800 ft. from W line, 600 ft. from N line of H. Castro Sur. 174.
Sand 190-195 ft., drlg. at 203 ft.

W. T. Shoemaker's No. 1 Noonan, 52.5 ft. S 2 deg. 20 ft. E of old well, Sec. 349, M. Simon Sur.
T.D. 445 ft.; cmtd. 8-in. csg. 200 ft.; R.U. rotary.

REAL COUNTY

H. J. Heartwell et al's No. 2 Mrs. M. S. Perry, 250 varas from NW line, 775 varas from SW line of A.B.&M. Sur. No. 175.
3,220 ft.; no report.

SAN PATRICIO COUNTY

Masterson et al's (Tom Graham) No. 1 Wurzbach, 330 ft. from W line, 4,350 ft. from S line of C. C. Hornsby Sur.
Standing 5,521 ft.

STARR COUNTY

Accumulated Royalties' No. 1 Ferry, Lot 8, Blk. 2, B.&B. Subd., Por. 86.
Drlg. 990 ft.

Armstrong, Emmanuel & Adams' No. 1 S.C. C.C., 330 ft. from S and E lines of Blk. 57, Porcion 88-89.
Temp. abd. 2,740 ft.

C. R. Borah's No. 1 A. Guerra, San Jose grant, 330 ft. from N and 150 ft. from E lines of Sec. 6 (NE part of county).
S.D. 2,320 ft.

John H. Clopton's No. 1 Mrs. A. M. Kelsey-Bass, 2,950 ft. from W line, 3,610 ft. from E line of Porcion 88 in Porcion 86, Jurisdiction of Camargo.
Drlg. 2,315 ft.

Henshaw Bros.' (Sunray Oil Co.) No. 1 Sanchez, 330 ft. from NE and NW lines of 40-ac. tract, Sur. 344.
Drlg. 2,650 ft.

Hiram Reed's No. 1 Block Bros., Tract A-28, Porcion 80, Blk. 4.
S.D. 1,540 ft.; oil sand 1,490-1,501 ft.

WEBB COUNTY

Mills Bennett's No. 1 Jesus Lopez, Jr., 2,500 ft. S line, 1,320 ft. W line of Sur. 73.
T.D. 2,144 ft.; I.P. 25,000,000 ft. of gas per day, 760 lbs. T.P., 5-16 inch choke.

Arthur H. Wray's No. 1 Geo. Stuempke, Share 1, Brewster pasture, Galan grant.
S.D. 1,125 ft.; moving in electric rig; (corrected depth).

WILLACY COUNTY

W. T. Daniel's No. 2 Armendiaz, near Rio Hondo, 7,798 ft. from E and W lines of Share 14.
T.D. 3,660 ft.; cleaning out to resume drilling.

Kingwood Oil Co.'s No. 1 Santa Rosa, Inc., 160 ft. from E line, 637 ft. from S line of Sec. 30, Blk. 16, Share 44, San Juan de Carricitas grant.
Drlg. 4,200 ft.

WILLIAMSON COUNTY

Fuchs & Walters' No. 1 S. Allmon, John Bevil Sur. No. 56, 150 ft. from SW line, 300 ft. most westerly SW line of 264-ac. tract.
Fishing 93 ft.; hole caving; S.D.

H. B. and Otto Glass' No. 1 Albert, 3 miles SE of Taylor.
Rigging up.

H. L. Goff et al's No. 1 Alberta Klotz, 1,700 ft. from N line, 150 ft. from E line of 100-ac. tract, W. Cartwright Sur.
T.D. 1,215 ft.; resumed drlg.

Hays et al's No. 1 Pfluger, 150 ft. from E line, 150 ft. from S line, White Sur.
S.D. 915 ft.

Rue et al's No. 1 Chas. Bachmayer, 6 miles SE Taylor.
Drlg. 310 ft.

WILSON COUNTY

Midland Oil Co.'s No. 1 Billings, 8 miles S of Smiley.
Drlg. 300 ft.

ZAPATA COUNTY

F. H. Crow et al's No. 1 Daniel Yzaguirre, 330 ft. out of SW cor. Share 1, Porcion 14-15-16, D. Yzaguirre tract.
Coring 2,365 ft.; no report.

Danvers & Harrison's No. 1 D. A. McAskill, 660 ft. SE and SW lines, Blk. 51, Edwards Subd., Borrego grant.
Set and cmtd. csg. 20 ft.

Humble O. & R. Co.'s No. 1 Eulalie Dominguez, 12,785 ft. from NE line, 1,320 ft. SE line of Por. 31.
Rigging up; ready to spud.

Joe Palmer's No. 1 Emma A. Markrud, 150 ft. from NE and NW lines, Blk. 22, Sur. No. 616.
Rigging up.

Texas Royalty Investment Co.'s No. 1 N. J. Vela, 686 ft. from NE line, 300 ft. from NW line, Blk. 7, Por. 29.
S.D. 2,360 ft.

Southwest Texas Proven

Week Ending June 29

CARROLL—BASTROP COUNTY

Nelson Puett's No. 5 Carroll Estate, 1,926 vrs. (5,350 ft.) from NW line and 619.20 vrs. (1,720 ft.) from SW line of Andrew Mayes Sur. No. 19.
Shale 926 ft.; no report.

CEDAR CREEK—BASTROP COUNTY

J. E. Mills' No. 2 H. H. Lytton, 225 ft. NW line, 825 ft. SW line, 320 acres, J. A. Navarro Sur.
T.D. 1,524 ft.; I.P. 200 bbls. per day.

BATEMAN—BASTROP COUNTY

Batts & Jarnson's No. 1 Mrs. Anneta Harris, 576 vrs. (1,600 ft.) NW line, 630 vrs. (1,750 ft.) SW line, John Maxmillan Sur. 22.
S.D. 300 ft.

CAESAR—BEE COUNTY

Luling Oil & Gas Co.'s No. 4 Miller, N offset to Luling's No. 1 Hudmon.
Rigging up.

Luling Oil & Gas Co.'s No. 8-B Ruhman, 400 ft. SW of No. 7-B, 350 ft. SE of No. 2-B.
Set surface csg.

El Toro Oil Co.'s No. 1 J. J. Grisson, 150 ft. from N and W lines of 10-ac. tract, P. B. Early Sur.
Spudded; no report.

McAlester Fuel Co.'s No. 2 W. J. Vaughn, 150 ft. from SE line, 300 ft. from SW line of 52.37-ac. tract, F. Lewis Sur.
T.D. 3,051 ft.; getting 95 bbls. per day.

Swiger et al's No. 4 Gardner, W offset to Vaughn producer.
Moving in material.

FIRK—BEE COUNTY

Dirks Bros.' No. 4 Harris, 330 ft. S of N line, 660 ft. W of No. 2 J. L. Dugat Sur.
Drlg. 2,000 ft.

Dirks Bros.' No. 4 Roth, 660 ft. E of No. 3, 330 ft. from N line, Sec. 7, J. M. Uranga grant.
Drlg. 3,900 ft.

Dirks-McMurray's No. 3 R. C. Harris, 660 ft. SW of No. 1, 495 ft. NE of SW line of 44.64-ac., J. L. Dugat Sur.
T.D. 3,885 ft.; I.P. 30 bbls. per hour.

L. A. Douglas' No. 1 Imogene Hall, 900 ft. from SE line, 330 ft. from SW line of 80 acres, T. J. Butler Sur.
Drlg. 1,850 ft.

Heyser Heard and Walton's No. 1 Young, 330 ft. S and E lines of tract, Rawlens Sur.
T.D. 3,891 ft. W.O.C.

Heyser Heard and Walton's No. 2 Young, 660 ft. N of No. 1, Rawlin's Sur.
Sand 3,859-66 ft.; W.O.C.

Humble O. & R. Co.'s No. 1 Shellenberger, E offset to Mills Bennett's No. 3-A Bassinger.
Drilled plugs 3,892 ft., setting screen.

FETTUS—BEE COUNTY

L. T. Barrow's No. 2-A McKinney, S 65 deg. E. 1,500 ft. from No. 2-A.
1,200 ft.; no report.

United Prod. Co.'s No. 50 Ray, approx. 2,-100 ft. northwesterly from NW cor. of Pierce Miller Sur., thence 540 ft. southwesterly at R/A; also 4,825 ft. SE from NW property line of lease, George A. Kerr Sur.
Abd. 4,151 ft.

RAY—BEE COUNTY

Dirks Bros.' No. 3 Ray, 660 ft. E of No. 2 and W road to Pettus in SW¼ of Sec. 7.
1,800 ft.; no report.

L. W. Littlejohn's No. 1 J. B. Borroum, 150 ft. out of SW cor. of 234-ac. tract, Wm. Gell Sur.
Moving in material.

Magnolia Pet. Co.'s No. 1 Geo. Ray, 150 ft. from E line, thence 1,220 ft. from S along E line to NW line of survey, W. B. Blanchard Sur.
Rigging up; ready to spud.

TULETA—BEE COUNTY

Highland Oil Co.'s No. 2 P. L. Campbell, 330 ft. from NW line and SW line of 40-ac. tract, W. B. Blanchard Sur.
T.D. 3,954 ft.; I.P. 300 bbls. daily.

Jamison & Bryon's No. 2 Campbell, Blanchard Sur.
T.D. 3,939 ft.; I.P. 265 bbls. per day, 3-16 inch choke, 675 lbs. C.P.

Mills Bennett Prod. Co.'s No. 1-B C. W. Bassinger, 256 ft. from W line, 330 ft. from S line of SE¼ of NW¼ of Sec. 7, Ragley Subd., Uranga grant.
Derrick.

Leslie McKay's No. 4 Campbell, 330 ft. out of SW cor. of Brooks & Burleson Sur.
Sand 3,938-51 ft.; W.O.C.

Simms Oil Co.'s No. 1 J. K. Renno, 330 ft. out of SW cor. of 80-ac. tract, J. M. Uranga Grant.
Drlg. 2,200 ft.

Southwest Exploration Co.'s No. 1 Heyden & Bruckhan, C of farm tract, 330 ft. from N and W lines of Sec. 20, Uranga grant.
Rigging up.

Stanolind O. & G. Co.'s No. 2 Walton, 660 ft. S of No. 1; 330 ft. E of W line, 1779 ft. S of N line.
Drlg. 2,460 ft.

Texas Co.'s No. 2 Young, 330 ft. from S line, 682 ft. due W of No. 1, 379.95-ac. tract, Geo. Young Sur.
Drlg. 3,500 ft.

DOBBOWOLSKI—BEXAR COUNTY

D. C. Pegg and B. Miller's No. 7 Katie Strunk, 391 ft. from SW line and 304 ft. from NE line, 139.65-ac. tract, Juan Montez Sur.
Rig.

VON ORMY—BEXAR COUNTY

T. and C. Owens' No. 1 Trawalter, 150 ft. W of river, 150 ft. from S line of tract No. 15, A. G. Trawalter Subd.
Spudded; no report.

Joe H. Parker's No. 1 James McClosky, 1,-500 ft. N line, 475 ft. W line, F. A. Dessaire Sur. No. 134.
Drlg. 510 ft.; no report.

A. J. Trawalter's No. 11 fee.
Moving in material.

BRUNER—CALDWELL COUNTY

Dawn Oil Corp.'s No. 2 Floyd Tiller.
Derrick.

DUNLAP—CALDWELL COUNTY

R. S. Boling's No. 2 C. F. Robertson, 575 ft. along Plum Creek from SW cor. of tract, 150 ft. from creek, John Neill Sur.
Spudded.

O. B. Cunningham's No. 1 J. M. Pierce, 150 ft. from S and W lines of tract in S. Seale Sur.
Testing 2,269 ft.; no report.

Exploration Co.'s (F. Meyers) No. 1 W. T. Mooney, 810 ft. from S line, 450 ft. from W line of 95-ac. tract, S. Seale Sur.
Drlg. plugs 2,165 ft.

Bellard & Whiting et al's No. 1 Mrs. A. C. Bridges et al, 650 ft. from NW line, 450 ft. from NE line of Soloman Seale Sur.
Drlg. 710 ft.

W. T. Walker's No. 3 Walker, 330 ft. SE of No. 2.
Drilling.

DRISCOLL—DUVAL COUNTY

Continental Oil Co.'s No. 5-A Robert Driscoll, 4,500 ft. W of E line hence 3,500 ft. at R/A along E line to N line of Sec. 23 in Sec. 448.
T.D. 2,905 ft.; I.P. 150 bbls. per day.

GOVERNMENT WELLS POOL—DUVAL COUNTY

Delange et al's No. 1 Hahl, 330 ft. from S and E lines, Blk. 5, Sur. 78.
Spudded.

Kane Prod. Co. et al's No. 1 Peters, 990 ft. W line, 330 ft. N line of SE¼ of Sur. 176.
T.D. 2,574 ft.; comp. avg. gas well.

Magnolia Pet. Co.'s No. 43 D.C.R.C. 1,650 ft. S of N line, 2,310 ft. W of E line, 660 ft. due N of No. 45 in Sec. 208, J. Poitevent Sur.
Drlg. 1,000 ft.

Magnolia Pet. Co.'s No. 2 Loffler, 946 ft. S line, 330 ft. E line of SE¼ of Sur. 47.
T.D. 2,269 ft.; I.P. 4,000,000 ft. of gas per day.

Magnolia Pet. Co.'s No. 1 Riggs, 330 ft. from N and W lines of NE¼ of NE¼ Sur. 46.
T.D. 2,352 ft.; I.P. 10 bbls. per day with lots of salt water.

Magnolia Pet. Co.'s No. 12 Riley, 900 ft. W line, 1,650 ft. S line of SW¼ of Sur. 45, 660 ft. due W of No. 5, 600 ft. due N of No. 11, J. Poitevent Sur.
Sand 2,189-93 ft.; coring 2,243 ft.; no report.

Parr Oil Corp.'s No. 3 R. E. Glover, 330 ft. from N and E lines of SE¼ of SE¼ of Sec. 44, J. Poitevent Sur.
Location.

Seaport Oil Co.'s (L. W. Capps) No. 7-A D.C.R.C., 225 ft. SW line, 1,640 ft. NW line, Sur. 574.
T.D. 2,408 ft.; I.P. 50 bbls. per day on pump.

Simpson-Fell Oil Co. et al's No. 8 L. B. Moody, 990 ft. from N line, 330 ft. from

E line of 100-ac. tract, G.B.&C.N.G. Sur. No. 60.
Drlg. 1,076 ft.
Smith & Story No. 14 Lundell 330 ft. N and E lines of SW ¼ of NE¼ of Sur. 48.
Sand 2,280-86 ft.; csg. 2,269 ft.
Completing.
E. R. Thomas' No. 1 C. W. Hahl, 330 ft. out of SE cor. of 165.5-ac. tract, SE¼ of Sec. 63, J. Poitevent Sur.
Drlg. 2,450 ft.

SARNOSA—DUVAL COUNTY

Sun Oil Co.'s No. 11 Cuellar Motor Co.; 990 ft. from NE line, 660 ft. NW of No. 9, B.S.&F. Sur. No. 576.
T.D. 2,421 ft.; 7-in. csg. at 2,385 ft.
Testing sand 2,395-2,421 ft.

HOFFMAN—DUVAL COUNTY

Bridwell's (Sun Oil Co.) No. 1 J. D. Sutherland, 330 ft. S line, 330 ft. E line of W½ of Sur. 122.
T.D. 2,712 ft.; sand 2,697-2,712 ft.; tested 180 ft. of oil; set csg.

LOMA NOVA—DUVAL COUNTY

Duval Oil Corp.'s No. 1 L. B. Moody, 330 ft. out of NE cor. of 40-ac. tract, Sec. 76.
Drlg. plugs 2,674 ft.
Duval Oil Co.'s No. 1 Hubbard, Morris & Cummings Sur., Sec. 77, 330 ft. out of NE cor. NE¼ section.
Rigging up.
Frank Grovis' No. 2 Byland, 330 ft. S and E lines, Blk. 2, Sur. 78.
Rigging up.
Henderson & Harvey's No. 1 Ruiz, 900 ft. from E line and 1,980 ft. from N line of Sur. 125.
M.I.M.
Humble Oil & Refg. Co.'s No. 2 Hubbard, Sand 2,794-2,802 ft.; set csg.
Humble Oil & Refg. Co.'s No. 6 Ruiz, 330 ft. from W line and 914 ft. from S line of Sur. 553.
Drlg. 2,705 ft.
Humble O. & R. Co.'s No. 1 Hubbard, B.S. &F. Sur. No. 84, 330 ft. from S line, 810 ft. from E line of 320-ac.
T.D. 2,817 ft.; I.P. 7½ bbls. per hour on gas jet.
Humble O. & R. Co.'s No. 2 Welder, 330 ft. from W line, 660 ft. from S line of 250.8-ac., Sec. 73, S.K.&K. Sur.
T.D. 2,698 ft.; I.P. 215 bbls. per day.
Humble O. & R. Co.'s No. 5 G. Ruiz Est., 1,497.4 ft. S of No. 4, 1,722 ft. W of No. 2, 330 ft. out of SW cor. of 640-ac., Sec. 553, B.S.&F. Sur.
T.D. 2,775 ft.; I.P. 200 bbls. per day.
Rosen Oil Co.'s (Johnson) No. 2 Hubbard, 330 ft. from NW cor. of SW¼ of Sur. 48.
Drlg. 1,615 ft.
Shell Pet. Corp.'s No. 1 Mrs. M. C. Hubbard, 2,196 ft. from S line, 339 ft. from E line of 320-ac. tract, Sur. 77.
Rigging up.
Stieren Oil Co.'s No. 3 Wright, Sur. 72.
Drlg. below surface csg.
E. R. Thomas et al's No. 1 C. W. Hahl, J. Poitevent Sur., Sec. 63, 330 ft. out of SE cor. of SE¼ section.
D.S. test in sand at 2,626 ft. showed 15 thribbles of oil in 18 min.; setting csg.
No report.

SEVEN SISTERS—DUVAL COUNTY

Dulce Oil Co. and Henderson & Harvey's No. 1 Serna, 150 ft. from E line, 330 ft. from N line of NW¼ of Sec. 384.
Tested salt water and a small amount of oil and gas in sand 2,509-15 ft.
Humble O. & R. Co.'s No. 1 Serna, 2,310 ft. from W line, 330 ft. from S line, Sur. 384.
Set surface csg.
Humble O. & R. Co.'s No. 1 Smith, 990 ft. from NW line, 330 ft. from E line of 531.7-ac. tract, Sec. 382, B.S.&F. Sur.
Drlg. 2,125 ft.
Santa Clara Oil Co.'s No. 2 J. F. Welder heirs, 330 ft. from N line, 990 ft. from E line, 660 ft. due W of No. 1, Sec. 385, J. Poitevent Sur.
Drlg. 2,250 ft.

PEARSALL—FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Kathman, 500 ft. from N and W lines of B. L. Crouch Sur.
T.D. 3,957 ft.; tested for well; set csg.
Amerada Pet. Corp.'s No. 1 W. H. Smith et al, 4,500 ft. from NE line, 1,650 ft. from SE line, Joseph V. Mason Sur. No. 322.
Drlg. 5,479 ft.

LULING—GUADALUPE COUNTY

Grayburg Oil Co.'s No. 15 McKean, 200 ft. from NW line, 150 ft. from SW line, H. Cottle Sur.
Abd. 2,083 ft.

DARST CREEK—GUADALUPE COUNTY

Texas Co.'s No. 2 Posey (workover).
Old T.D. 2,606 ft.; set 7-in. csg. at 2,575 ft.; T.D. of sidetracked hole 2,583 ft.

DINERO—LIVE OAK COUNTY

Marine Oil Co.'s No. 1 Adair, 330 ft. from N and W lines of 366-ac. tract in J. McGloin Sur.
Abd. 5,348 ft.

LUCAS—LIVE OAK COUNTY

Houston Oil Co.'s No. 32 Cartwright, 1,124 ft. N of No. 31, Trudo Sur.
S.D. 6,787 ft.

McNEILL—LIVE OAK COUNTY

Lion Oil Ref. Co.'s No. 5 P. E. McNeill, 330 ft. from NW line, 1,350 ft. from SE line of G.H.&H. Sur. in Jane Curry Sur., Blk. 9.
Abd. location.
Darby Pet. Co.'s No. 1 McNeill, 330 ft. out of NW cor. of 116-ac. lease, 1,200 ft. SE of Lion's No. 1.
Abd. 5,243 ft.

THREE RIVERS—LIVE OAK COUNTY

Benco Oil Corp.'s No. 1 E. Mahoney, 165 ft. from NW line of J. H. Harvey tract, 3,109 ft. SW of highway in Mark Killelly Sur.
Spudded; S.D.
Turner & Walker's No. 1 C. F. Simmons, 50 ft. from N line, 300 ft. from W line, Farm Tract 513, Blk. 12, S. Hayes Sur.
Rigging up and S.D.

SAM FORDYCE—HIDALGO COUNTY

Ben G. Barnett's No. 3 Missouri Pacific, N side of right of way and 1,600 ft. from W line of Porcion 41.
Drlg. 2,200 ft.
Cortez Oil Co.'s No. 2-C Smith, 230 ft. from N line, 690 ft. from W line of NE 40 acres of Tract B-3, Porcion 41.
Location.
Cortez Oil Co.'s No. 3-C Smith, 230 ft. from N line, 1,150 ft. from W line of NE 40 acres of Tract B-3, Porcion 41.
Location.
Cortez Oil Co.'s No. 1-C Smith, 230 ft. from N and W lines of NE 40 acres of Tract B-3, Porcion 41.
T.D. 2,755 ft.; killed to D.D.; S.D.
Double D. Oil Co. and Harrison's No. 2 Lula George, 230 ft. from W line, 690 ft. from S line of SW 40 acres of Tract 13, Porcion 41.
T.D. 4,001 ft.; P.B. to 2,700 ft.; S.D. to perforate.
Harrison et al's No. 2 (4) Guerra, 330 ft. from S and E lines of S 40 acres of Share 12, Porcion 41.
W.O.C. 2,753 ft.
W. F. Lacy's No. 1 V. R. deFlores, 75 ft. from N line, 107 ft. from E and W lines, Blk. 266, Porcion 38.
T.D. 2,784 ft.; completed for daily allowable; ¼-in. choke; C.P. 170 lbs.
H. J. Porter's No. 2 C. E. Smith, N end of S½ of tract in Tract 278, Porcion 40.
Spudded; S.D.

MERCEDES—HIDALGO COUNTY

Union Sulphur Co.'s No. 4 A.R.G.L.&I.C., 400 ft. N and W lines, Lot 1, Blk. 99, 1½ miles SW discovery well.
Moving in rig.
Union Sulphur Co.'s No. 1 American Rio Grande L. & I. Co., 400 ft. S and W of NE cor. of Lot 229, Blk. 59 (W.O.).
T.D. 6,431 ft.; P.B. to 2,400 ft.; W.O.C.
Union Sulphur Co.'s No. 2 American Rio Grande L. & I. Co., 400 ft. S and E lines of tract, Blk. 86, Capisallo district (W.O.).
T.D. 8,044 ft.; Drlg. 5,700 ft. in sidetracked hole.

SANDIA—JIM WELLS COUNTY

Magnolia Pet. Co.'s No. 6 Seeligson, 600 ft. W, 330 ft. S of No. 3 Canales Sur. No. 20.
S.D. 6,010 ft.; (corrected depth).
O. W. Killam's No. 7 Wade, 1,320 ft. SE of No. 4, 200 ft. from NW line, 225 ft. from NE line, Lot 1, Blk. C, Lopez de Jean grant.
Rigging up.

WEINER—KENDALL COUNTY

Southwestern Dev. Co. Synd., Ltd.'s No. 1 W. G. Werner, 1,645 ft. from N line, 765 ft. from NW line of 320-ac. tract, J. F. Torrey Sur. No. 781.
Drlg. 125 ft.

KINGSVILLE—KLEBERG COUNTY

Ray Clark's No. 1 House, Lot 5, Blk. 37, K.T.&I. Co. Sur.
S.D. 1,000 ft.
Fidelity Exploration's No. 1 Paul O. Henry, 150 ft. from N line midway E and W lines of Blk. 2, Sec. 49, K.T.&I. Sur.
Set surface csg. 304 ft.; no report.
Fidelity Exploration Synd.'s No. 1 Vivian Kivlin, Sec. 4, Blk. 39, K.T.&I. Sur. on Vivian Kivlin lease.
Derrick up.

JACOB POOL—McMULLEN COUNTY

Inland Oil Co.'s No. 3 Lark, 150 ft. from W line, 1,285 ft. from N line, Blk. 133, Scrugham Sur.
Moving in to complete.
Loma Oil Co.'s No. 2-W L. Jacob Corp., 220 ft. from E line, 1,320 ft. due N of No. 1-W, W. D. Benham Sur.
T.D. 925 ft.; S.D.
M. E. Young's No. 8-A Cox, E of Frio River across line from Lark tract in M. Hely Sur. (old well).
Sand 1,070 ft.; no report.

LOMA ALTA—McMULLEN COUNTY

Darby Pet. Corp.'s No. 1-C Hagist, 330 ft. out of NE cor. of 20-ac. tract, in Sec. 108, R. W. Mills Sur.
Coring 2,100 ft.
Humble Oil & Rfg. Co.'s No. 1 Atkinson, 330 ft. out of SE cor. of Sec. 13.
Ready to spud.
Illinois Pet. Co.'s No. 2-A Ellen Atkinson, 330 ft. from S line, 660 ft. due E of No. 1-A, Sec. 13, Martha J. Deen Sur.
Drlg. 1,730 ft.

TAYLOR—MEDINA COUNTY

Callahan & Robert's No. 1 Ray Taylor, 1,450 ft. NS line, 220 ft. EW line, Sur. No. 135.
Spudded; S.D.

ANGELITA—SAN PATRICIO COUNTY

Continental and Atkins & O'Neal's No. 3 Welder, 466 ft. from S line, 150 ft. W of SE cor. of Anthony tract, J. Hart Sur.
Drlg. 5,510 ft.; no show.

PLYMOUTH-SAN PATRICIO COUNTY

Conroe Drlg. Co.'s (Heep) No. 1-D Welder, N of Sinton.
4,300 ft.; no report.
Heep Oil Corp.'s No. 3-E Welder, 466 ft. from E line, 933 ft. due S of No. 2-E, N 400 acres of Sec. 46, R. Montgomery Sur.
Set surface csg.
Heep Oil Corp.'s No. 2-E Welder, 466 ft. from E line, 1,399 ft. from N line, 933 ft. due S of No. 1-E, N 400-ac. of Sec. 46, R. Montgomery Sur.
T.D. 5,667 ft.; set csg. on S.D.; W.O.C.
Magnolia Pet. Co.'s No. 1 Corpus Christi Bank, 330 ft. E from river, thence 330 ft. at R/A, 9,300 ft. SW of Heep's No. 1 Welder, H. H. Hunter Sur.
Spudded.
Plymouth Oil Co.'s No. 5-C Welder, 933 ft. N of No. 1-E Welder of Heep.
Drlg. 4,250 ft.
Plymouth's No. 6-C Welder, 933 ft. S of No. 4-C.
Spudded.
Plymouth Oil Co.'s No. 7-C Welder, 933 ft. W of No. 5-C.
Rigging up.
Plymouth Oil Co.'s No. 4-C Welder, E offset to Heep's No. 1-E.
Drlg. 5,590 ft.
Plymouth Oil Co.'s No. 2-C E. H. Welder, 2,000 ft. from N line, 680 ft. from E line, Sec. 49, Subd. No. 1 of Eliza H. Welder ranch.
T.D. 5,636 ft.; I.P. 300 bbls. per day, 3-16 inch choke.
Plymouth Oil Co.'s No. 3-C E. H. Welder, 744 ft. from N line, 2,000 ft. from E line, Sec. 49, Subd. No. 1, E. H. Welder ranch.
Drlg. 5,840 ft.
Plymouth Oil Co.'s No. 1-D E. H. Welder, 466 ft. from N line, 466 ft. SE of Ry., Sec. 1, Subd. No. 1, E. H. Welder ranch.
Drlg. 6,575 ft.
Violet Oil Co.'s No. 1 Welder, 1,399 ft. from W line, 466 ft. from N line of 200-ac. tract, Sec. 47, Isaac Clover Sur.
Rigging up.

LOS OLMOS—STARR COUNTY

H. L. Curry's No. 2 Bass, 660 ft. from S line, 1,835 ft. from E line of 640-ac. tract, Sec. 8, Porcions 75, 76 and 77.
S.D. 1,250 ft.
H. C. Horter, Trustee, No. 1 Sanchez, 150 ft. from N and W lines Blk 3, Share 74, Porcion 72.
Sand 501-505 ft.; set csg.; W.O.C.
Ed Linberg's No. 7 Bass, 1,500 ft. from W line, 1,675 ft. from N line of Share 6, Porcion 75.
S.D. 500 ft.

PLACETAS—STARR COUNTY

Hughston Oil Co.'s No. 1-A Gregg-Wood, S end of Por. 84; replacement well, 990 ft. S of State Highway No. 4.
Drlg. 3,370 ft.

RIO GRANDE—STARR COUNTY

Hiram Reid's No. 3 D.&C., 150 ft. from S and E lines, Blk. 3, Tract 21, Por. 81.
Drlg. 1,120 ft.
W. W. Zimmerman's No. 1 Doyno, 150 ft. from S line, 822 ft. from W line of 40-ac. tract, Lot 1, of Share A-77, Por. 81.
Sand 1,444-50 ft.; set csg.

SAXET—NUECES COUNTY

Houston Oil Co.'s No. 4 Morgan, 660 ft. E of No. 3, Sec. 7, Range 5.
Location.
Houston Oil Co.'s No. 4 Walton, 330 ft. EW line, 1,560 ft. NS line.
Drlg. shale and lime 2,933 ft.; no report.
Magnolia Pet. Co.'s No. 1 Baldwin, 330 ft. from N and W lines of J. S. McGregor Sur. No. 39.
Sand showing oil 3,231-3,238 ft.
Standing.
Magnolia Pet. Co.'s No. 2 W. W. Walton, 330 ft. from E line, 289 ft. from S line of 92.11-ac. tract, Enrique Villareal Sur.
Location.
Southern Minerals' No. 1-A Rand Morgan, Roberts Sur.
Drlg. 6,520 ft.

BRUNI—WEBB COUNTY

Associated Oil Co.'s No. 5 Bruni, 2,310 ft. SW line, 330 ft. NW line of 500-ac. tract, Sur. 6-7, Arispe grant.
Sand 3,383-88 ft.; testing.
Associated Oil Co.'s No. 3 A. M. Bruni, 660 ft. N of No. 2, 330 ft. from W line, 5,000-ac. tract, Blk. 7, M. Arispe grant.
Location.
Highland Oil Co.'s No. 8 Bruni, 1,650 ft. from NW line, 330 ft. from NE line, Sur. 7.
Coring 3,407 ft.; had sand 3,387-94 ft.; no report.
Highland Oil Co.'s No. 12 A. M. Bruni Estate, 520 ft. E of No. 6, 330 ft. from S line of 200-ac. tract, M. Arispe grant.
Location.
O. W. Killam's No. 38 Bruni, 330 ft. from NW line, 800 ft. from SW line of M. Arispe grant No. 6.
Sand 2,262-78 ft.; testing.

LAUREL—WEBB COUNTY

South Texas Oil Co.'s No. 1 Laurel Bros., 100 ft. from E line, 200 ft. from S line of Sec. 269, Blk. 2, C.C.S.D.&R.G.N.G. Sur.
Derrick.

WEST COLE POOL—WEBB COUNTY

Allison et al's No. 1 Moses Jones, 330 ft. S and E lines of NE 100 acres, Sur. 1,640.
Coring 855 ft.
Ross Barnhart's No. 1 de la Garza, 1,500 ft. from N line, 200 ft. from E line of Sur. 262.
T.D. 2,406 ft.; fishing.
Magnolia Pet. Co.'s No. 1X-S Benavides, 313 ft. from NE and SW lines, 347 ft. from NW and SE lines, M. E. Hale Subd. No. 185.
T.D. 2,768 ft.; I.P. 8 bbls. per hr. through ⅛-in. choke.
Magnolia Pet. Co.'s No. 3 S. S. Benavides, 200 ft. from N and W lines of Sec. 696, B.S.&F. Sur.
Rigging up.
Frank Smith's No. 1 Moses Jones, 2,150 ft. E line, 2,850 ft. S line, Sur. 1,640.
Drlg. 415 ft.

NOACK—WILLIAMSON COUNTY

Coffield & Lanning's No. 3 Heap, 200 ft. from N line, 225 ft. from W line of tract in White Sur.
Location.
R. R. Ogden's No. 1 Matteck, 150 ft. N and W lines of 108.5-ac. tract in White Sur.
Location.
W. L. Stephens' No. 1 J. P. Carlson, 200 ft. out of NW cor., 900 ft. SE line, 610 ft. SW line of Samuel C. Jones Sur.
Drlg. 615 ft.

BYERSVILLE—WILLIAMSON COUNTY

H. T. McGee's No. 1 A. J. Heal, 3,100 ft. from SW line, 3,250 ft. NW line, P. Cartwright Sur.
Abd. 1,121 ft.
Elmer Rule et al's No. 1 Bachmeyer, Cartwright Sur., 450 ft. from NW line, 150 ft. from NE line, 70.1-ac. tract.
Moving in material.
Stone & Gabehart's No. 1 Wernli, 150 ft. from S and E lines of tract, P. Cartwright Sur.
Abd. 980 ft.
Taylor Ref. Co.'s No. 9-A Sladek, H. White Sur., 150 ft. from NE line, 1,200 ft. SE line (creek).
Shale 700 ft.; no report.

BLAS URIBE—ZAPATA COUNTY

Martinez, Eravi & Daniels' No. 1 A. M. Bruni, 150 ft. from SE line, 750 ft. from NW line of 40-ac. tract, Blk. 44, Blas Uribe Sur. No. B-8.
Drlg. 660 ft.

CHARCO REDONDO—ZAPATA COUNTY

H. C. Dean's No. 1 J. N. G. Martinez, 330 ft. from NE and NW lines Blk. 34, Share 8.
S.D. 100 ft.
Stover et al's No. 1 Martinez, 330 ft. from SE line and 847 ft. from NE line, Blk. 125, Share 1, Grullo Grant.
Drlg. 110 ft.

ESCOBAS—ZAPATA COUNTY

Kleiner & Hill's No. 12 Jose Gutierrez, 393.9 ft. from NW line, 172 ft. from NE line, Share 4, Fansler Parti. of Las Comitas grant.
Sand 1,221-28 ft.; coring 1,228 ft.

LOPENA—ZAPATA COUNTY

Gem Oil Co.'s No. 1 Ramirez, 330 ft. from NW and SW lines of Share 13, Por. 17.
Drlg. 2,617 ft.
J. J. O'Hern's No. 1 Alexander, 2,000 ft. from SW line of Share 7 and 550 ft. from SE line of Porcion 22.
Rigging up.
Trowel et al's No. 1 W. Z. Guerra.
Coring brittle shale 1,790 ft.; no report.

MIRANDO VALLEY—ZAPATA COUNTY

C. L. Smith's No. 1 Robert Hinnant, 330 ft. out of NW cor. Sec. 307, Blk. 27, F. M. Makelg Sur.
Drlg. 1,986 ft.

California Wildcats

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Allen Bros., No. 1 Athens, Los Angeles Co.	18- 3-13	....	bldg. rig
Republic Pet. Co., No. 1 Lawndale, Los Angeles Co...	18- 3-14	5,396	hd. sd. drlg.
Associated Oil Co., No. 4 Inglewood Deep, Los Angeles	7- 2-14	4,032	sd. sh. drlg.
Scientia Oil Co., No. 1 Inglewood Deep, Los Angeles ..	7- 2-14	4,552	will cmt.
Standard Oil Co., No. 5 Inglewood Deep, Los Angeles..	17- 2-14	6,284	suspended
Standard Oil Co., No. 7 Inglewood Deep, Los Angeles..	17- 2-14	....	bldg. rig
Shell Oil Co., No. 3 Inglewood Deep, Los Angeles Co...	8- 2-14	2,885	completing
Sunbar Pet. Co., No. 1 Inglewood Deep, Los Angeles..	16- 2-14	....	rig suspended
Ohio Oil Co., No. 17 Del Rey, Los Angeles Co.	28- 2-15	3,830	pump 200 b.d.
Blackline Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,618	D. P. stuck
Harper & Williams, No. 1 Del Rey, Los Angeles Co. ..	27- 2-15	6,265	test W.S.O.
Coast Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,696	rig to pump
McAdams, Ed, No. 2 Del Rey, Los Angeles Co.	27- 2-15	6,324	flow 1,200 b.d.
Dabney Pet. Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	....	bldg. rig
Ritelube Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,975	rig to pump
Mathews Pet. Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,510	cleaning out
Birch Royer Oil Co., No. 1 Del Rey, Los Angeles Co...	34- 2-15	6,481	sd. sh. drlg.
Embee Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,453	sd. sh. drlg.
Joyce Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,742	sand—wet
Royalty Serv. Corp., No. 2 Del Rey, Los Angeles Co...	27- 2-15	6,444	cmtd. 6,335
Union Oil Co., No. 13 Del Rey, Los Angeles Co.	27- 2-15	5,752	sd. sh. drlg.
Union Oil Co., No. 14 Del Rey, Los Angeles Co.	27- 2-15	....	rigging up
Union Oil Co., No. 15 Del Rey, Los Angeles Co.	27- 2-15	....	rigging up
Del Rey Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	4,461	sd. sh. drlg.
Treasure Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	....	foundation
Winoco Oil Co., No. 1 Del Rey, Los Angeles Co.	26- 2-15	....	bldg. rig
West American Oil Co., No. 1 Bandini, Los Angeles Co.	17- 2-12	4,164	sd. sh. drlg.
Western Gulf, No. 1 Bandini, Los Angeles Co.	16- 2-12	5,552	sd. sh. drlg.
Vanco Dev. Co., No. 1 Artesia, Los Angeles Co.	35- 3-12	5,193	sd. sh. drlg.
Monarch Oil Corp., No. 1 Topango, Los Angeles Co. ..	5- 1-16	131	sd. sh. drlg.
Texas Co., No. 1 Montebello, Los Angeles Co.	5- 2-11	4,440	hd. sd. drlg.
Universal Consd., No. 2 Montebello, Los Angeles Co...	5- 2-11	5,854	flow 2,000 b.d.
Woodward Oil Co., No. 1 Montebello, Los Angeles Co.	4- 2-11	2,650	sd. sh. drlg.
Wilshire Oil Co., No. 1 Montebello, Los Angeles Co. ..	5- 2-11	3,124	hd. sd. drlg.
Frontier Oil Co., No. 1 Pico, Los Angeles Co.	7- 2-11	3,600	suspended
Pressell & Tull, No. 1 Puente Hills, Los Angeles Co...	30- 2-9	4,337	suspended

Company, well and location—	S.T.R.	Depth	Status
Barstow Oil Co., No. 1 Saugus, Los Angeles Co.	15- 5-16	4,040	suspended
International Dev. Co., No. 1 Saugus, Los Angeles Co.	34- 5-16	1,650	recmtd.
Wilshire Oil Co., No. 1 Newport, Orange Co.	29- 6-10	1,200	sd. sh. drlg.
Great American Pet., No. 2 East Coyote, Los Angeles	23- 3-10	2,474	suspended
Viking Oil Co., No. 1 Richfield, Orange Co.	29- 3-9	3,000	hd. sd. drlg.
Great American Pet. Co., No. 4 Chino, San Bernardino	7- 1-8	967	suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Shell Oil Co., No. 5 Capitan, Santa Barbara Co.	5- 4-20	371	sd. sh. drlg.
General Petroleum, No. 15 Capitan, Santa Barbara Co.	32- 5-20	332	sd. sh. drlg.
Freeman, M. J., No. 1 Purisima, Santa Barbara Co.	11- 7-21	1,025	suspended
Shell Oil Co., No. 1 Goleta, Santa Barbara Co.	10- 4-29	307	cmtd.
Scully & Snyder, No. 1 Naples, Santa Barbara Co.	7- 4-29	6,447	suspended
Barnsdall-Rio Grande, No. 12 Elwood, Santa Barbara	tideland	3,707	reaming
Barnsdall-Rio Grande, No. 3 Elwood, Santa Barbara	15- 4-29	6,492	suspended
Bankline Oil Co., No. 6 Elwood, Santa Barbara Co.	tideland	3,754	sd. sh. drlg.
Signal Oil & Gas Co., No. 4 Elwood, Santa Barbara Co.	tideland	2,976	sd. sh. drlg.
Caroline Spalding, No. 10 Elwood, Santa Barbara Co.	tideland	3,760	completing
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	8,116	fishing
Calco Pet. Co., No. 1 Las Posas, Ventura Co.	17- 3-20	1,649	cmtd. 1,648
Union Oil Co., No. 1 Bardsdale, Ventura Co.	12- 3-20	3,336	cmtd. 3,223
Dabney, H. K., No. 1 Bardsdale, Ventura Co.	2- 3-19	510	suspended
Bankline Oil Co., No. 1 Sespe, Ventura Co.	36- 5-26	....	bldg. road
Oil Ridge Oil Co., No. 1 Ventura, Ventura Co.	1- 4-19	1,670	sd. sh. drlg.
El Rancho Oil Co., No. 1 South Mountain, Ventura Co.	9- 3-19	1,113	resume work
Texas Oil Co., No. 1 South Mountain, Ventura Co.	4- 3-19	7,297	hd. sh. drlg.
Paloma Oil Co., No. 1 Susana, Ventura Co.	13- 3-18	1,831	sd. sh. drlg.
Boisa Chica Oil Co., No. 2 Piru, Ventura Co.	4- 4-18	2,788	cleaning out
Prop. Service Corp., No. 1 Lloyd, Ventura Co.	24- 3-21	8,235	gr. sd. drlg.
General Pet., No. 1 Oxnard, Ventura Co.	26- 2-22	....	bldg. rig
Continental Oil Co., No. 4 San Miguelito, Ventura Co.	23- 3-24	4,795	sd. sh. drlg.
Amerada Pet., No. 3 Blackwell Corner, Kern Co.	17-26-19	3,098	sd. sh. drlg.
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	4,200	sd. sh. drlg.
Continental Oil Co., No. 1 McDonald, Kern Co.	7-28-20	5,242	sd. sh. drlg.
Belmac Drlg. Co., No. 1 McKittrick, Kern Co.	22-29-21	758	sd. sh. drlg.
General Pet. Co., No. 1 South Belridge, Kern Co.	30-28-21	11,377	suspended
Standard Oil Co., No. 1-A North Belridge, Kern Co.	36-27-20	8,533	flow 700 b.d.
Standard Oil Co., No. 2 North Belridge, Kern Co.	36-27-20	8,000	redrl. 5,460
Belridge Oil Co., No. 32-35, North Belridge, Kern Co.	35-27-20	6,553	sd. sh. drlg.
Belridge Oil Co., No. 33-35, North Belridge, Kern Co.	35-27-20	5,971	sd. sh. drlg.
Union Oil Co., No. 19, North Belridge, Kern Co.	36-27-20	3,591	sd. sh. drlg.
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	3,482	sd. sh. drlg.
Woods & Bailey, No. 1 McFarland, Kern Co.	16-26-26	....	bldg. rig
Cimarron Oil Corp., No. 1 Delano, Kern Co.	14-25-27	2,440	suspended
Standard Oil Co., No. 1 Delano, Kern Co.	1-25-23	2,455	gas—shut in
Standard Oil Co., No. 2 Delano, Kern Co.	1-25-23	3,256	gas—shut in
Standard Oil Co., No. 3 Delano, Kern Co.	12-25-23	3,935	sd. sh. drlg.
Standard Oil Co., No. 4 Delano, Kern Co.	34-24-23	....	rigging up
Trico Oil & Gas Co., No. 1 Delano, Kern Co.	3-25-23	2,525	gas well
Trico Oil & Gas Co., No. 2 Delano, Kern Co.	36-24-22	4,835	P.B. 2,223
Trico Oil & Gas Co., No. 5 Delano, Kern Co.	3-25-23	2,420	sd. sh. drlg.
Baker, Cliff, No. 1 Poso Creek, Kern Co.	33-27-28	1,031	sd. sh. drlg.
Getty, George F., No. 6 Kern Front, Kern Co.	26-28-27	....	rigging up
Kern River Oilfields, No. 2 Kern Front, Kern Co.	25-28-27	1,846	test W.S.O.
Bishop Oil Co., No. 1 Kern Front, Kern Co.	26-28-27	....	rig suspended
Deep Zone Oil Co., No. 1 Kern Front, Kern Co.	29-28-27	....	rigging up.
Republic Petroleum, No. 2 Kern Front, Kern Co.	24-28-27	....	rigging up
Golden Bear Oil Co., No. 1 Kern Front, Kern Co.	33-27-27	5,815	suspended
Stevens Pet. Co., No. 1 Kern Front, Kern Co.	13-27-27	2,625	suspended
Barnsdall Oil Co., No. 4 Mountain View, Kern Co.	32-30-29	5,020	sd. sh. drlg.
Hancock Oil Co., No. 7 Mountain View, Kern Co.	14-30-28	5,340	O.S. drlg.
Shell Oil Co., No. 2 Mountain View, Kern Co.	32-30-29	5,554	gr. sd. drlg.
C. C. M. Oil Co., No. 1 Mountain View, Kern Co.	11-30-28	5,487	sd. sh. drlg.
Texas Co., No. 5 Mountain View, Kern Co.	15-30-28	2,620	cmtd. 1,122
Union Oil Co., No. 7 Mountain View, Kern Co.	15-30-28	5,592	suspended
Union Oil Co., No. 8 Mountain View, Kern Co.	22-30-28	5,609	cleaning out
General Petroleum, No. 4 Mountain View, Kern Co.	14-30-28	5,628	recmtd. 5,580
Vesta Pet. Co., No. 1 Mountain View, Kern Co.	19-30-29	5,240	sd. sh. drlg.
Mohawk Oil Co., No. 10 Mountain View, Kern Co.	30-30-29	5,690	sd. sh. drlg.
Mohawk Oil Co., No. 11 Mountain View, Kern Co.	30-30-29	4,862	sd. sh. drlg.
Mohawk Oil Co., No. 12 Mountain View, Kern Co.	30-30-29	....	rigging up.
Sovereign Oil Co., No. 4 Mountain View, Kern Co.	30-30-29	6,174	recmtd.
Jergins Trust, No. 6 Mountain View, Kern Co.	30-30-29	5,780	O.S. drlg.
Standard Oil Co., No. 8 Mountain View, Kern Co.	33-30-28	2,082	cmtd. 1,202
Standard Oil Co., No. 9 Mountain View, Kern Co.	24-30-28	....	rigging up
Standard Oil Co., No. 10 Mountain View, Kern Co.	13-30-28	....	bldg. rig
Woods-Callahan Oil Co., No. 1 Mountain View, Kern Co.	25-30-28	....	bldg. rig.
Star Petroleum Co., No. 1 Mountain View, Kern Co.	23-30-28	5,516	suspended
Ohio Oil Co., No. 1 Mountain View, Kern Co.	32-30-29	5,999	suspended
Ohio Oil Co., No. 2 Mountain View, Kern Co.	32-30-29	5,686	form. test
Mountain View Oil Co., No. 1 Mountain View, Kern	25-30-28	5,650	fish D.P.
Jergins Trust Co., No. 6 Edison, Kern Co.	24-30-29	1,315	suspended
Jergins Trust, No. 7 Edison, Kern Co.	13-30-29	1,295	cleaning out
Jergins Trust, No. 8 Edison, Kern Co.	24-30-29	1,176	P.B. 1,060
Ellithorpe, R. E., No. 1 Edison, Kern Co.	18-30-30	421	suspended
Shell Oil Co., No. 8 Edison, Kern Co.	14-30-29	1,668	cmtd. 1,577
Sunday, G. M., No. 1 Edison, Kern Co.	5-30-30	151	sd. sh. drlg.
Noico Oil Co., No. 1 Edison, Kern Co.	5-30-29	3,952	sd. sh. drlg.
General Pet., No. 5 Edison, Kern Co.	15-30-29	3,479	testing
General Pet., No. 6 Edison, Kern Co.	24-30-29	....	rigging up.
Appling, C. E., No. 1 Edison, Kern Co.	4-30-29	3,587	cmtd. 3,514
Berry Oil Co., No. 1 Edison, Kern Co.	10-30-29	861	sd. sh. drlg.
Woodward Oil Co., No. 2 Edison, Kern Co.	36-29-29	685	suspended
Woodward Oil Co., No. 4 Edison, Kern Co.	36-29-29	430	reaming
Woodward Oil Co., No. 5 Edison, Kern Co.	36-29-29	884	sd. sh. drlg.
Lucas, Don, No. 1 Edison, Kern Co.	26-29-29	554	sd. sh. drlg.
General Pet., No. 1 Arvin, Kern Co.	1-32-29	5,530	sd. sh. drlg.
Hall-Baker Co., No. 1 Arvin, Kern Co.	16-31-30	1,250	suspended
Hall-Baker Co., No. 3 Arvin, Kern Co.	21-31-30	991	sd. sh. drlg.
Hutcheson & Osborne, No. 1 Arvin, Kern Co.	32-30-30	531	sd. sh. drlg.
Superior Oil Co., No. 1 Semi-Tropic, Kern Co.	23-27-23	....	bldg. rig
Fullerton Oil Co., No. 1 Semi-Tropic, Kern Co.	1-27-22	2,391	gas—shut in
Fullerton Oil Co., No. 2 Semi-Tropic, Kern Co.	14-27-22	2,443	gas—shut in
Fullerton Oil Co., No. 3 Semi-Tropic, Kern Co.	9-27-23	3,183	sd. sh. drlg.
Fullerton Oil Co., No. 4 Semi-Tropic, Kern Co.	26-27-23	2,395	gas—shut in
Fullerton Oil Co., No. 5 Semi-Tropic, Kern Co.	8-27-25	....	rigging up
Fullerton Oil Co., No. 6 Semi-Tropic, Kern Co.	25-27-23	....	rigging up
Standard Oil Co., No. 2 Semi-Tropic, Kern Co.	5-27-23	3,854	sd. sh. drlg.
Standard Oil Co., No. 3 Semi-Tropic, Kern Co.	7-27-23	2,355	gas—shut in
Standard Oil Co., No. 4 Semi-Tropic, Kern Co.	9-27-23	2,453	sd. sh. drlg.
Standard Oil Co., No. 5 Semi-Tropic, Kern Co.	9-27-23	2,221	cmtd. 541
Standard Oil Co., No. 6 Semi-Tropic, Kern Co.	8-27-23	....	rigging up
Standard Oil Co., No. 7 Semi-Tropic, Kern Co.	1-27-22	....	bldg. rig
Standard Oil Co., No. 8 Semi-Tropic, Kern Co.	12-27-22	....	rigging up
Standard Oil Co., No. 9 Semi-Tropic, Kern Co.	1-27-22	....	rig suspended
Milham Expl. Co., No. 1 Semi-Tropic, Kern Co.	15-27-23	2,976	sd. sh. drlg.
Milham Expl. Co., No. 2 Semi-Tropic, Kern Co.	15-27-23	....	bldg. rig
Shell Oil Co., No. 1 Buena Vista, Kern Co.	9-32-25	7,195	sd. sh. drlg.
Seepie, J. C., No. 1 Elk Hills, Kern Co.	6-30-24	3,850	suspended
Bender, E. L., No. 1 Tembler, Kern Co.	2-29-20	785	fish D.P.
Reserve Oil & Gas Co., No. 1 Tejon, Kern Co.	2-10-19	2,699	pumping test
Reserve Oil & Gas Co., No. 2 Tejon, Kern Co.	12-10-19	576	sd. sh. drlg.
River Gate Oil Co., No. 1 Tejon, Kern Co.	7-10-19	884	sd. sh. drlg.
Taft Well Drlg. Co., No. 1 Kreyenhagen, Fresno Co.	33-22-16	2,750	sd. sh. drlg.
Standard Oil Co., No. 1 Coalinga, Fresno Co.	13-20-14	657	pump 116 b.d.
Wellington Oil Co., No. 1 Coalinga, Fresno Co.	14-20-14	1,268	suspended
Union Oil Co., No. 1 Lillis-Kettleman, Fresno Co.	24-21-16	10,944	will s/t
K.N.D.A., No. 56 Kettleman-North, Kings Co.	8-22-18	10,249	will abnd.
Standard Oil, No. 2 Kettleman Middle, Kings Co.	29-21-19	6,890	br. sh. drlg.
Pet. Sec., No. 2 Kettleman Middle, Kings Co.	30-22-19	....	grading
Continental Oil Co., No. 1 Kettleman-South, Kern Co.	7-25-20	6,902	rig Hydril
Farrel Pet., Well No. 1, San Luis Obispo Co.	15-31-12	1,735	sd. sh. drlg.
Willett Oil Co., No. 1 Cholame, San Luis Obispo Co.	19-25-15	3,687	suspended
Kings River Oil Pool, Well No. 1 Tulare Co.	29-14-23	3,353	suspended
Schuster, C. R., No. 1 Tulare, Tulare Co.	17-21-23	....	rig suspended
Commonwealth Consd. Gas, No. 1 Tulare Lake, Kings	21-22-20	2,496	gas well
Commonwealth Consd. Gas, No. 2 Tulare Lake, Kings	21-22-20	710	sd. sh. drlg.
Amerada Pet., No. 1 F. L. D., San Joaquin Co.	15- 2- 5	5,883	hd. sd. drlg.
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-10-14	8,402	gas well—idle
Northern Counties Pet., No. 1 Tehama, Tehama Co.	25-24- 3	4,363	sd. sh. drlg.
Texas Co., No. 1 Petrolia, Humboldt Co.	1- 3- 2	6,133	cmtd. 5,708
Shell Oil Co., No. 1 Branch, Monterey Co.	34-24-10	3,310	sd. sh. drlg.
Trico Oil & Gas Co., No. 1 Noonan, Solano Co.	10- 5- 1	731	suspended

E. C. Texas Wildcats

Week Ending June 29

WILDCATS—ANDERSON COUNTY

Hunt and Sun Oil Co.'s No. 2 Alice Scott. 30 ft. N of No. 1, James Crawford Sur. S.D. 1,153 ft.

J. W. Luttes' No. 1 C. McKee, 2,640 ft. from N line of lease and survey and 330 ft. from W line of McKey 800-ac. tract. Elev. 391 ft.; S.D. 4,516 ft.

CAMP HILL AREA

Gulf Prod. Co.'s No. 2-A Southern Lbr. Co., 330 ft. W along N line of 115.9-ac. tract from SE cor. of L. B. Ross' 37.6-ac. tract, and 330 ft. S at R/A, south offset to No. 1 Ross. Rigged up.

Gulf Prod. Co.'s No. 3-A Southern Lbr. Co., 330 ft. N along W line of 115.9-ac. tract from SE cor. of D. A. Maddox 106-ac. tract, and 330 ft. E at R/A, east offset to No. 1 Maddox. Derrick.

CAYUGA AREA—ANDERSON COUNTY

Tide Water Oil Co. et al's No. 21-A Wells, 4,079 ft. N and 2,333 ft. W of lease, S. Edmondson Sur. (Trinity test). Drlg. 8,345 ft.

LONG LAKE AREA—ANDERSON COUNTY

Tide Water Oil Co. et al's No. 1 Shaw and Kern, 1,400 ft. from S and 2,333 ft. from F line, in D. Parker Sur. Drlg. 4,000 ft.

BOWIE COUNTY

Tex-Ark. Oil Co.'s No. 1 Hamilton Estate, 600 ft. E and 350 ft. N lines, J. Milan Sur., 4 miles S of Red River. S.D. 1,121 ft.

CHEROKEE COUNTY

H. A. Baker et al's No. 1 T. Smith, 630 ft. S. 660 ft. W of SW cor. of W. A. Newton's 160-ac. tract, 2½ miles N of Jacksonville, J. Pineda Sur. Drlg. 3,955 ft.

Jacksonville O. & G. Co.'s No. 1 H. D. Henderson, 660 ft. from N and W lines of 40-ac. tract out of Tankersley 104-ac. tract, 5 miles NE of Jacksonville, J. Pineda Sur. S.D. 693 ft.

O'Connor and St. Germaine Oil Co.'s No. 1 Long, 150 ft. E and 450 ft. E. G. S. Long Sur., 2 miles S of Mount Selman. S.D. 80 ft.

Shell Pet. Corp.'s No. 1 New Birmingham Dev. Co., 190 ft. S and 150 ft. E from SE cor. T. J. Wood 160-ac. lease Levi Jordan Sur. Drlg. 100 ft.

S. Thompson's No. 1 G. H. Allen, 330 ft. out of SW cor. 150-ac. tract, Wm. King Sur., 3 miles S of Hughes Spring. Location.

Wilson Stubbs Oil Co.'s No. 1 Rowborts, 450 ft. from S line, 150 ft. from W line of 100-ac. tract, 2 miles SW of Jacksonville, J. D. Wolfin Sur. S.D. 1,553 ft.

Wood et al's No. 4 New Birmingham Dev. Co., 750 ft. S and 150 ft. E line, 600 ft. N of No. 3. Base Austin 5,170 ft.; top sand 5,170 ft.; cored to 5,182 ft.; showing sand.

FANNIN COUNTY

B. F. Allen's No. 1-B Argo, center of 16½-ac. tract in J. G. Swisher Sur., 1 mile S of Ector. Drlg. 455 ft.

Warner Moore et al's No. 1 Hancock, 400 ft. from W and 150 ft. N lines, Sec. 16, L. M. Baldock Sur., ⅛ mile S of Trenton. S.D. 170 ft.

FRANKLIN COUNTY

Ferrell et al's No. 1 G. K. Ayers, C. H. Simms Sur., 900 ft. from N line and 5,300 ft. from W line of survey, 6 mi. NE of Winnsboro on 80-ac. tract. Top Pecan 2,425 ft.; drlg. 2,550 ft.

FREESTONE COUNTY

Hoover et al's No. 1 McFall, 150 ft. S and W lines, S. Garrison Sur., E of Mexia. Derrick.

J. E. Milburn's No. 1 S. E. McShan, 4,000 ft. NW and 5,000 ft. NE of tract, 3 miles SE of Donie, G. Diaz Sur. S.D. 270 ft.

GREGG COUNTY

O. T. Clark's No. 1 Williams, 2,100 ft. from S and 2,400 ft. from W of D. Hill Sur., 3 miles NE of Longview. S.D. 3,710 ft.; swbng. csg.

L. P. Kean's No. 1 S. M. Smith, 1,000 ft. E and 1,250 ft. S of W. W. Avery Sur., 4 miles SE of Gladewater. Rigged up.

HENDERSON COUNTY

Great State's No. 1 Ansley, 1,724 ft. W and 300 ft. S of SE cor. of M. Mathews Sur., N. H. T. Thompson Sur. S.D. 3,315 ft.

C. D. Neff et al's No. 1 H. G. Small, 450 ft. from W and 375 ft. from E lines, I. Greeson Sur., SW of Crossroads. Drlg. 2,156 ft.

H. M. Wilson's No. 1 fee, 970 varas S of NE cor. of 943-ac. tract, 5 miles N of Malshoff. Derrick.

HOPKINS COUNTY

D. A. Hale et al's No. 1 L. M. Hall, 200 ft. from N and E lines of 10-ac. tract, 1 mile SE of Miller Bros. A. Caro Sur. T.D. 2,950 ft.; washing to bottom.

HUNT COUNTY

J. F. Morrissey & Co., Inc.'s No. 1 Fry, 543 ft. from N and 200 ft. from E of 146-ac. tract, 7 miles N of Commerce, C. Davis Sur. T.D. 2,007 ft.; skidded rig.

H. G. Samson's No. 1 Phillips, 1,200 ft. E of Winan's No. 1 Phillips, University Lands Sur., 2 miles W of Commerce. Elev. 522 ft.; top Woodbine 2,596 ft.; S.D. 2,913 ft.; washing to bottom.

KAUFMAN COUNTY

Germany et al's No. 1 Clark, 951 ft. N and 1,000 ft. W of tract, S. Eden Sur. T.D. 1,780 ft.

Murry & Emerson's No. 1 G. W. Martin, 1,660 ft. from W and 250 ft. from N of 140-ac. tract, from W. L. C. Butler Sur., 2 miles NE of Kemp. Drlg. 1,762 ft.

L. P. Kean's No. 1 J. B. Hunter, R. Sowell Sur., 300 ft. from SW and 150 ft. from SE of 50-ac. tract, 4 miles S of Terrell. S.D. 3,400 ft.

LEON COUNTY

Killough & Tucker's No. 1 G. W. Lee, center of NE 10 acres of 230-ac. tract, J. Burleson Sur. Elev. 303 ft.; 5,626 ft.

LIMESTONE COUNTY

J. Edward Mills' No. 1 Hunt, 200 ft. from N. 350 ft. from W line 34.75-ac. tract, Israel Wood Sur., 3 miles NE of Kosse. S.D. 3,654 ft.

Doughtry et al's No. 1 S. Welch, 150 ft. from NW and 900 ft. from NE of 77.64-acre tract in A. Varilia Sur., 4 miles W of Groesbeck. Drlg. 3,028 ft.

Y. Rogers' No. 1 J. M. Tidwell, 330 ft. from S and E of 230-ac. tract, P. Varella Sur., 3 miles SW of Mexia. Rigged up.

McLENNAN COUNTY

Mahan et al's No. 1 Mann, 1,100 ft. W of Simms Oil Co.'s No. 1 Mann, Carlos Tampo Sur., W of Robertsonville. S.D. 700 ft.

NACOGDOCHES COUNTY

Morrow et al's No. 1 Mrs. J. J. Holton, 900 ft. from W and 1,200 ft. from S 50-ac. tract, B. Flores Sur., 5 miles E of Nacogdoches. S.D. 712 ft.

Seobinger & Baker, trustee's No. 1 Mrs. A. Mattauer, 408 ft. from W and 607 ft. from N of 440-ac. tract, R. Totin Sur., 4 miles SE of Cherino. S.D. 1,060 ft.

NAVARRO COUNTY

W. J. Keeling et al's No. 1 J. F. Rushing 484 ft. from N line and 150 ft. from W line of 184-ac. tract, 6 miles SW of Richardson, Henry Ford Sur. T.D. 2,881 ft.

McCullough et al's No. 1 C. Berry, 330 ft. from SE cor. of 35-ac. tract, 1 mile W of Dawson, William Moss Sur. S.D. 1,152 ft.

E. M. Thomason & Co.'s No. 1 C. Morgan, 340 ft. from W and 520 ft. from N of 100-ac. tract, Wm. Haggard Sur., 1 mile SW of McGlothlin's No. 1 Dobbin. Drlg. 1,435 ft.; top Austin 1,358 ft.

Wiggins et al's No. 1 Dodono, 400 ft. from N and 1,101 ft. from E lines in John Couple Sur., SW of Corsicana. S.D. 1,439 ft.

RAINS COUNTY

Allen & McClung's No. 1 Giles, T. Cunningham Sur., Abst. 143, 330 ft. from W line and 200 ft. from N line of 105-ac. Giles tract, 5 mi. SW of Emory. Derrick.

Allen & McClung's No. 1 Ida Bullard, N. Brantely Sur., 1,300 ft. from W line and 200 ft. from N line of 25-ac. tract, 2 mi. SW of Emory. Derrick.

RED RIVER COUNTY

Joiner's No. 1 D. Rust, C. C. Wilborn Sur., 234 ft. N and 254 ft. W of most southerly SE cor. of Sur., just south of Avery. Moving in rig.

RUSK COUNTY

Ben Lamb's No. 1 H. Leath, 330 ft. out of NW cor. of 185-ac. tract in L. J. Dooley. T.D. 4,740 ft.; P.B. to 4,710 ft.

Richardson's No. 1 Wood. T.D. 4,404 ft.; pulled in derrick.

SMITH COUNTY

Bowers et al's No. 1 M. Landers, 330 ft. from S and E of 215-ac. tract, S.A.& M.G. Sur., 9 miles NE of Jamestown. Drlg. 2,920 ft.

R. W. Fair et al's No. 1 F. Terrell, 330 ft. out of NE cor. of 72-ac. tract, Eli Delk Sur., 2½ miles NE of Sand Flat. Austin chalk 4,588-4,700 ft.; drlg. 5,000 ft.

W. R. Harrison's No. 1 Rushing, J. Herring Sur. (O.W.D.D.) Fishing 4,330 ft.

TITUS COUNTY

S. Rotondi's No. 1 Lillianstun, 1,200 ft. E from NW cor. of J. Bodt Sur. and 330 ft. N, but in W. H. Crawford Sur., 5 miles NE of Talco. Elev. 301 ft.; derrick.

VAN ZANDT COUNTY

J. H. Foster et al's No. 1 Broucher, 330 ft. out of SE cor. of tract, D. Clapp Sur., 4 miles SE of Wills Point. Drlg. 3,980 ft.

J. Beren et al's No. 1 Bryant, 483 ft. N of same operator's dry hole, Nacogdoches County School Land Sur. S.D. 1,325 ft.

Beren et al's No. 2 Palmer, 544 ft. from S and 656 ft. from E of 69.5-ac. tract, Nacogdoches County School Land.
S.D. 1,324 ft.

WOOD COUNTY

Atlatl Royalty Corp.'s No. 1 J. B. Goldsmith, W. W. Lanier Sur., Abst. No. 358, 466 ft. from W line and 566 ft. from N line of 693.3-ac. tract and survey, 3½ mi. NW of Quitman.
Top Woodbine 4,448 ft.; drlg. 4,805 ft.

West Texas Wildcats

Week Ended June 29

ANDREWS COUNTY

Crafton Oil Co.'s No. 1 Richard & McWhorter, C NE ¼ Sec. 13, Blk. A-30, 6 mi. SE of NW cor. of county.
Rig.

Fuhrman Pet. Corp.'s No. 2 Ford, 440 ft. from S and 1,320 ft. from E, Sec. 16, Blk. A-43.
Fishing 4,047 ft.

Gulf Prod. Co.'s No. 1 J. S. Kelley, 1,320 ft. from S and E, Sec. 2, Blk. A-38.
Combination rotary and standard rig.

Honolulu & Llano Oil Co.'s No. 1-B Parker, 440 ft. from N and 1,650 ft. from E, Sec. 11, Blk. A-43.
Elev. 3,281 ft.; drlg. 4,702 ft.; hole full oil.

Humble Oil & Ref. Co.'s No. 5 Means, 554 ft. from S and 677 ft. from W, Sec. 4, Blk. C-45, P.S.L. Sur.
Derrick.

Humble Oil & Ref. Co.'s No. 4 Means, 1,982 ft. from N and 660 ft. from E, Sec. 12, Blk. A-35.
Rigged up.

Humble Oil & Ref. Co.'s No. 4 Means, 654 ft. from S and 1,997 ft. from W, Sec. 4, Blk. C-45.
Elev. 3,185 ft.; drlg. 4,341 ft.; drlg. in with oil.

Republic Prod. Co.'s No. 1 Boner-State, 2,200 ft. from S and 1,320 ft. from E. Sec. 25, Blk. A-43.
Fishing 4,003 ft.

L. G. Stogner et al's No. 1 Mrs. C. George, 660 ft. from S and E, Sec. 25, Blk. A-22, P.S.L. Sur.
Spudded and S.D.

J. W. Tripplehorn's No. 1 Ogden, 330 ft. from S and 2,310 ft. from W lines of Sec. 6, Blk. A-46, P.S.L. Sur.
Elev. 3,211 ft.; drlg. 2,860 ft.

Wahlenmaier et al's No. 1 Odessa Ranch Co., 1,320 ft. from N and E of Sec. 10, Blk. A-32, P.S.L. Sur.
Elev. 3,307 ft.; drlg. 4,632 ft.

Wahlenmaier et al's No. 1 Cox Estate, 1,320 ft. from N and W of Sec. 8, Blk. A-33.
T.D. 157 ft.; rotary rig.

BREWSTER COUNTY

F. C. Dodson's No. 1 Texas American Syndicate, 660 ft. from N and E, Sec. 66, Blk. 10, G.H.&S.A. Sur.
Elev. 3,228 ft.; S.D. 950 ft.; rigged up rotary.

Joiner et al's No. 1 McIntyre, 353 ft. from S. 2,390 ft. from E of Sec. 21, Blk. 352, W. M. Mitchell Sur.
S.D. 2,150 ft.

King & Franklin's No. 1 Gage Est., C Sec. 138, Blk. 22, G.H.&S.A. Sur.
Elev. 4,244 ft.; S.D. 1,185 ft.

G. H. Storey's No. 1 Wilson, 1,980 ft. from N and E lines of Sec. 3, Blk. 212, T.&St. L. Sur.
Elev. 3,609 ft.; drlg. 1,672 ft.

S. G. Smith's No. 1 Decie, 2,490 ft. from S and E, Sec. 7, Blk. 1.
Elev. 4,271 ft.; drlg. 1,133 ft.

COCHRAN COUNTY

Kelsey's No. 1 Slaughter, C Labour 36, League 150, R.C.S. Lands.
Derrick.

West Texas Development Co.'s No. 1 Slaughter, near C of Labour 53, League 149, Randall Co. School Lands.
Drlg. 60 ft.

COKE COUNTY

Haggerty et al's No. 1 Gaston, 340 ft. from S and 654 ft. from W, Sec. 11, Jos. Young Sur.
S.D. 3,120 ft.

CRANE COUNTY

American Liberty Oil Co.'s No. 1 Tubb, 796 ft. from S and 330 ft. from W, Sec. 11, Blk. B-27, P.S.L. Sur.
Elev. 2,536 ft.; drlg. 2,550 ft.

Dobbs Oil Co.'s No. 1 J. Cowden et al, 330 ft. from S and E of N half, Sec. 38, Blk. 1, H.&T.C. Sur.
Running csg.

Gulf Prod. Co.'s No. 10 Waddell, C NW ¼ Sec. 11, Blk. B-23.
Elev. 2,775 ft.; drlg. 2,880 ft.

Gulf Prod. Co.'s No. 1 Henderson, 1,313 ft. from S and 1,322 ft. from E, Sec. 3, Blk. B-23, P.S.L. Sur.
Elev. 2,778 ft.; drlg. 3,450 ft.; flowed 32 bbls. in 48 hrs.

Gulf Prod. Co.'s No. 1 M. B. McKnight, 660 ft. from S and W, Sec. 9, Blk. B-21.
Elev. 2,778 ft.; drlg. 3,700 ft.; 2,000 ft. fluid in hole.

Gulf Prod. Co.'s No. 1 Waddell, C NW NW Sec. 4, Blk. B-27, P.S.L. Sur.
Drlg. 4,615 ft.

H. L. Holloway's No. 1 Mayberry, 2,440 ft. from SW and SE, Sec. 17, Blk. 35, H.& T.C. Sur.
S.D. 570 ft.

Magnolia Pet. Co.'s No. 1 Edwards, 330 ft. from S and 1,650 ft. from E, Sec. 2, Blk. B-23.
Elev. 2,778 ft.; T.D. 3,160 ft.; bailing hole.

CROCKETT COUNTY

Adkins Bros.' No. 1 Shannon, 320 ft. from S and 630 ft. from W of 80 in SW ¼ Sec. 27, Blk. WX, G.C.&S.F. Srr. Machine.

Leslie-Hillier et al's No. 1 Todd, 1,200 ft. N and 330 ft. E, Sec. 36, Blk. WX, G.C.& S.F. Sur.
T.D. 820 ft.; set csg.

Humble Oil & Ref. Co.'s No. 1 Couch, C NW Sec. 2, Blk. QR, G.C.&S.F. Sur.
Elev. 2,538 ft.; temp. abnd. 1,881 ft.

Anderson-Prichard Oil Corp., Magnolia Pet. Co. et al's No. 1 Borders, 1,255 ft. N and 2,305 ft. from W, Sec. 34, Blk. 69, P.S.L. Sur.
P.B. to 1,664 ft.

Miller Bros.' No. 1 fee, 1,900 ft. from N and 660 ft. from E line of Sec. 21, Blk. 97, P.S.L. Sur.
S.D. 2,137 ft.

DAWSON COUNTY

Adams & Turner's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M, E.L.R.R. Sur.
Fishing 4,860 ft.

O. F. Dickinson, trustee's No. 1 C. H. Doaks, 368 ft. from S and 330 ft. from E of SW cor., Sec. 4, Blk. H, E.L. Ry. Co. Sur.
S.D. 155 ft.

ECTOR COUNTY

Atlantic Oil Prod. Co.'s No. 1 T. P. Land Trust, 440 ft. from N and W of SE Sec. 11, Blk. 43, Twp. 1s, T.&P. Sur.
T.D. 4,391 ft.; P.B. to 4,255 ft.; testing.

Continental Oil Co.'s No. 1 Wight, 2,300 ft. from S and W, Sec. 21, Blk. 43, Twp. 1s, T.&P. Sur.
Rig.

Empire Gas & Fuel Co.'s No. 1 Cummins, 440 ft. from S and E, Sec. 10, Blk. 45, Twp. 1n, T.&P. Sur.
2,000,000 ft. gas; fishing 4,130 ft.

Eppenauer Drlg. Co. et al's No. 1 Wight, 440 ft. from N and W of NE ¼ Sec. 22, Blk. 43, Twp. 1s, T.&P. Sur.
Rigged up.

Landreth Prod. Co.'s No. 1-B Blakeney, 440 ft. from S and W, Sec. 22, Blk. 44, Twp. 1n, T.&P. Sur.
Elev. 3,172 ft.; drlg. 3,770 ft.

Landreth Prod. Co.'s No. 1 Blakeney, 440 ft. from N and E, Sec. 28, Blk. 43, Twp. 1n, T.&P. Sur.
Elev. 3,066 ft.; drlg. 2,325 ft.

Landreth Prod. Co.'s No. 2 Scharbauer, 2,200 ft. from N and 440 ft. from W, Sec. 13, Blk. A, P.S.L. Sur.
Elev. 3,142 ft.; drlg. 4,055 ft.; gas at 3,851-57 ft.

C. L. Peters' No. 1 Connell, 330 ft. from N and E lines of NW of Sec. 12, Blk. B-16, P.S.L. Sur.
Drlg. 2,980 ft.

Phillips Pet. Co. and Pure's No. 1 C. Cowden, 2,200 ft. from N and 440 ft. from W, Sec. 14, Blk. 44, Twp. 1s, T.&P. Sur.
Elev. 3,100 ft.; T.D. 3,177 ft.; crooked hole.

Phillips Pet. Co. and Pure Oil Co.'s No. 2 C. Cowden, 440 ft. from S and W, Sec. 23, Blk. 44, Twp. 1s, T.&P. Sur.
Drlg. 1,229 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Kinkel, 190 ft. from N and 550 ft. from E, Sec. 237, A.T.&S.F. Sur.
S.D. 535 ft.

FISHER COUNTY

George Callihan et al's No. 1 Herring, 2,310 ft. from S and 330 ft. from W lines of Sec. 192, Blk. 1, B.B.B.&C. Sur.
Elev. 1,804 ft.; T.D. 3,126 ft.; testing after treating.

Russ Petroleum Co.'s No. 1 Reynolds, 550 ft. from S and 420 ft. from E of SW ¼ Sec. 3, Blk. R, W. E. Richardson Sur.
Elev. 1,822 ft.; T.D. 3,206 ft.; P.B. 3,200 ft.; treated; testing.

Tide Water Oil Co. et al's No. 1 W. E. Hittson et al, 1,320 ft. from N and 660 ft. from W, Sec. 177, Blk. 2, H.&T.C. Sur.
Elev. 1,871 ft.; drlg. 2,847 ft.

GARZA COUNTY

N. L. Richards' No. 1 Sullivan, 330 ft. from N and W, Sec. 3, Blk. 5, K. Aycock Sur.
Elev. 2,534 ft.; T.D. 2,940 ft.; swabbed 25 bbls. oil and 10 bbls. water per day.

GLASSCOCK COUNTY

John I. Moore et al's No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of Sec. 22, Blk. 34, Twp. 2s, T.&P. Sur.
Topped lime 9,471 ft.; show oil and gas 9,484-9,520 ft.; increase oil 9,594-9,660 ft. and 9,633-55 ft.; T.D. 9,946 ft.

HOWARD COUNTY

Eastland Oil Co.'s No. 1 D. H. Snyder, SW cor. Sec. 28, Blk. 30, Twp. 1s, T.&P. Sur. Machine.

John I. Moore et al's No. 1 Snyder, 330 ft. from S and W, Sec. 28, Blk. 30, Twp. 1s, T.&P. Sur.
Elev. 2,302 ft.; drlg. 1,925 ft.

Texas Co.'s No. 10 Schalk, W half Sec. 18, Blk. 19, Lavaca Navigation Co. lands.
Drlg. 1,700 ft.

Wooten's No. 1 Blank, NW ¼ Sec. 46, Blk. 30, Twp. 1n, T.&P. Sur.
Location.

JEFF DAVIS COUNTY

C. M. Joiner's No. 1 Jones & Coffield, 770 ft. from N and 1,322 ft. from E, Sec. 8, Blk. 3, H.&T.C. Sur.
Drlg. 1,382 ft.

JONES COUNTY

Campbell et al's No. 1 Rowell, in E half of W half, Sec. 6, T.&P. Sur.
Drlg. 1,855 ft.

R. L. Crawford's No. 1 Wattser, 200 ft. from S and W, Sec. 1, T.&N.O. Sur.
Location.

Davenport & Hughes' No. 1 J. D. Farrell, 1,100 ft. from N and 1,540 ft. from E, Sec. 6, Blk. 15, T.&P. Sur.
Rigged up machine.

A. B. Farris et al's No. 1 J. W. Jennings, 1,980 ft. from S and 660 ft. from E, Sec. 207, B.B.B.&C. Sur.
Drlg. 1,602 ft.

Moutray & King's No 1 R. Prichard, 400 ft. from N and 200 ft. from W, Subd. 1, G. Martinez Sur., 5 miles N of Hawley.
T.D. 2,030 ft.; set csg.

Sandy Ridge Oil Co.'s No. 3 Jones, 1,520 ft. from N and 660 ft. from W, Sec. 5, Blk. 15, T.&P. Sur.
Location.

Ungren & Frasier's No. 1 King Ranch, 200 ft. from N and E of NW half, Blk. 5, M. Bueno Sur.
T.D. 1,976 ft.; C.O.

KIMBLE COUNTY

Wilcox Oil & Gas Co.'s No. 1 J. Patterson, 200 ft. from N and E, Sec. 1, D.&P.R.R. Sur.
Drlg. 1,015 ft.

LOVING COUNTY

D. C. Evans' No. 1 W. D. Johnson, 2,310 ft. from N and 1,650 ft. from W, Sec. 12, Blk. 57, Twp. 1, T.&P. Sur.
S.D. 2,170 ft.

Mason Oil Co.'s No. 1 Kyle, 1,980 ft. from S and E, Sec. 22, Blk. 55, Twp. 1, T.&P. Sur.
Drlg. 2,656 ft.

LYNN COUNTY

Hart Oil Co.'s No. 1 Edwards, 220 ft. from N and 200 ft. from W of SE Sec. 29, L.&S.V. Sur.
Elev. 3,112 ft.; S.D. 4,817 ft.

MARTIN COUNTY

Wright & Scott's No. 1 Flannigan, 330 ft. N and E, Sec. 22, Blk. 37, Twp. 1s, T.&P. Sur.
S.D. 100 ft. for csg.

McCULLOCH COUNTY

Paulter et al's No. 2 Wyres, 50 ft. from S and 160 ft. from W, P. W. Rocins Sur. Material.

MITCHELL COUNTY

Sawtell & Grueber's No. 1 Morrison.
T.D. 1,845 ft.; U.R. csg.

Texas Co.'s No. 1 Terry, 300 ft. from S and 1,650 ft. from E of W 485 acres, Sec. 62, Blk. 29, W.&N.W. Sur.
Drlg. 1,707 ft.

PECOS COUNTY

Adams et al's No. 2 Masterson, 1,630 ft. from SE and 330 ft. from SW, Sec. 104, Blk. 10, H.&G.N. Sur.
S.D. 1,075 ft.

Gulf Prod. Co.'s No. 6 White & Baker, 330 ft. from N and W, Sec. 94, Blk. 194.
Elev. 2,847 ft.; drlg. 1,555 ft.

W. Hicks' No. 1 Fromme, 1,980 ft. from NE and 2,310 ft. from SE, Sec. 106, Blk. 10, H.&G.N. Sur.
Location.

C. R. Richards' No. 4 Courtney, 920 ft. from N and W. Sec. 78, Blk. OW, 360 ft. S of No. 2.
Elev. 2,967 ft.; S.D. 362 ft.

Famwan Oil Co.'s No. 2 Masterson, 330 ft. from W and 990 ft. from S lines of Sec. 104, Blk. 10, H.&G.N. Sur.
Drlg. 1,276 ft.

Trans-Tex. Oil Co.'s No. 1 Caldwell, 330 ft. from E line and 330 ft. from S line of Sec. 27, Blk. 40, Twp. 9, T.&P. Sur.
T.D. 2,410 ft.; ran csg.

REAGAN COUNTY

Dobbs' No. 1 Friend, 2,310 ft. from S and 660 ft. from W of Blk. 3, Wm. Allen Sur., 3 or 4 miles S of Big Lake.
S.D. 2,465 ft.; cleaning out and rigging up pump; P.B. 2,440 ft.

Skelly Oil Co.'s No. 1-D H. S. Grayson, 1,980 ft. from N line and 660 ft. from W line of Sec. 33, Blk. 8, University Land Sur.
S.D. 9,967 ft.; bridged back to 3,100 ft.; pumped all water in 3-hr. test.

REEVES COUNTY

Dunigan's No. 1 Davis, 330 ft. from N and W, Sec. 7, Blk. 58, P.S.L. Sur.
Location.

Herbert Oil Co.'s No. 1 Williams & Walker, 5,280 ft. from S and 1,320 ft. from E, Sec. 17, Blk. 6, H.&G.N. Sur.
Elev. 2,536 ft.; T.D. 3,268 ft.; standardizing.

K. Slack et al's No. 1 Reeves, C NW ¼ Sec. 20, Blk. 56, P.S.L. Sur., 22 mi. N of Toyah.
Drlg. 851 ft.; top Rustler 805 ft.

Washington Oil Co.'s No. 1 J. M. Radford Grocery Co., 2,640 ft. from S and 340 ft. from E, Sec. 39, Blk. 56, P.S.L. Sur.
T.D. 502 ft.; to set csg.

RUNNELS COUNTY

Dennis et al's No. 1 Wash, 550 ft. from N and 560 ft. from E of W half, Sec. 123, E.T.R.R. Sur.
Shut down.

Melrose Oil Co.'s No. 1 L. P. Woods, 150 ft. from NE lines and 3,475 ft. from W line of survey, Willett Holmes Sur. No. 100.
S.D. 2,507 ft.

R. Wells' No. 1 James, 396 ft. from N and 330 ft. from E of James tract in Sec. 16, D. Diaz Sur.
T.D. 2,290 ft.; U.R. csg.

Wolverton's No. 1 Willingham, 200 ft. from river and in C of Wilhelm-Wolfgang Sur. No. 425, 1½ mi. SE of Ballinger.
Drlg. 1,424 ft.

SCHLEICHER COUNTY

John M. Cooper et al's No. 1 Bert Page, 1,290 ft. from N line, 1,470 ft. from W line of Sec. 40, Blk. L, G.H.&S.A. Sur.
T.D. 6,180 ft.; tools stuck.

W. C. Proctor et al's No. 1 Judkins & Spencer, C SW ¼ Sec. 4, Blk. V-28.
S.D. 680 ft.

SCURRY COUNTY

Coffield & Guthrie's No. 1 Wade, 990 ft. from N and 330 ft. from W, Sec. 115, Blk. 97, H.&T.C. Sur.
Location.

M. L. Goss' et al's No. 1 J. E. Murphy, 330 ft. from N and 1,650 ft. from E, Sec. 114, Blk. 97, H.&T.C. Sur.
Elev. 2,287 ft.; Fishing 1,335 ft.

Magnolia Pet. Co.'s No. 1 J. W. Mecar, 1,630 ft. from N and 990 ft. from E, Sec. 342, Blk. 97, H.&T.C. Sur.
Elev. 2,516 ft.; drlg. 1,600 ft.

STONEWALL COUNTY

Barnsdall Oil Co.'s No. 1 S. Young, 350 ft. from N and E, Sec. 26, Austin & Williams Sur. 349.
Elev. 1,726 ft.; drlg. 2,963 ft.

SUTTON COUNTY

Paul C. Teas' No. 1 G. S. Allison, 660 ft. from S and W, Sec. 49, Blk. A, G.W.T. &P. Sur.
Location.

TAYLOR COUNTY

Anderson et al's No. 1 J. C. High, 2,310 ft. from N and 990 ft. from E, Sec. 8, L.&L. Sur.
Rigged up machine.

Skaggs & Brewer's No. 1 McClure, 330 ft. from N and E, S half SW Sec. 8, L.A.L. Sur.
T.D. 1,605 ft.; U.R.

TOM GREEN COUNTY

Twin Oil Co.'s No. 1 W. E. Green, 1,050 ft. from N and 1,400 ft. from W, L. P. Moore Sur. 169½.
S.D. 315 ft.

UPTON COUNTY

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G. Sur.
T.D. 12,786 ft.; P.B. to 9,952 ft.; swabbed 242 bbls. oil and 54 bbls. water in 24 hrs.

Humble Oil & Ref. Co.'s No. 1 Pollock, C of NW, Sec. 4, Blk. M.
Drlg. 7,165 ft.

Williams & Williams Drlg. Co.'s No. 1 Robbins, 1,600 ft. from S and 1,900 ft. from E, Sec. 4, G.C.&S.F. Sur.
T.D. 2,080 ft.; C.O. and testing.

WARD COUNTY

Alexander's No. 1 Richter, 1,650 ft. from NW, 1,170 ft. from NE line of Sec. 27, Blk. 34, H.&T.C. Sur.
S.D. 2,389 ft.

Bradford et al's No. 1 E. R. Allen, 660 ft. from NW line and 551 ft. from NE line, Sec. 11, Blk. 5, H.&T.C. Sur.
T.D. 1,520 ft.; trying to drive csg.

Caprito's No. 1 Hardage & Wilson, 2,310 ft. from NE and 990 ft. from SE, Sec. 11, Blk. 34, H.&T.C. Sur.
Drlg. 127 ft.

Eastland Oil Co.'s No. 1 Johnson, 330 ft. NW and NE, Sec. 24, Blk. 34, H.&T.C. Sur.
Rotary rig.

Eastland Oil Co.'s No. 1 C. D. Mason, 330 ft. from SW and SE, Sec. 14, Blk. 34.
Drlg. 1,200 ft.

Gulf Prod. Co.'s No. 58 O'Brien, 330 ft. from E and 1,650 ft. from S, Sec. 18, Blk. F.
S.D. 2,585 ft.

Magnolia Pet. Co.'s No. 2 Sealy Estate, 2,310 ft. from S and 330 ft. from W, Sec. 43, Blk. F.
Drlg. 2,850 ft.; show oil 2,796 ft.

Jerry Sines' No. 1 Brown, 330 ft. from NW and NE, Sec. 13, Blk. 5, H.&T.C. Sur.
T.D. 3,148 ft.; P.B. 3,075 ft.; S.D.

West Texas O. & R. Co.'s No. 1-C University, 330 ft. from N and E, Sec. 6, Blk. 16.
T.D. 2,668 ft.; P.B. 2,567 ft.

WINKLER COUNTY

Barnsdall Oil Co.'s No. 1 Brown & Altman, 2,310 ft. from S and E, Sec. 6, Blk. B-5.
Elev. 2,844 ft.; T.D. 3,218 ft.; P.B. to 3,195 ft.; C.O. and testing.

Emperor Oil Co.'s No. 1 Hailey, 1,650 ft. from S and 330 ft. from E, Sec. 12, Blk. B-12.
Elev. 2,764 ft.; drlg. 1,422 ft.

Fox & Butler's No. 1 Brown & Altman, 2,310 ft. from S and 1,650 ft. from E, Sec. 6, Blk. B-5.
Elev. 2,847 ft.; S.D. 2,584 ft.

Gulf Prod. Co.'s No. 1 Keystone Cattle Co., NE of NW, Sec. 10, Blk. B-3, P.S.L. Sur.
Elev. 2,942 ft.; S.D. 2,198 ft.

Gulf Prod. Co.'s No. 2 Keystone Cattle Co., NW cor. Sec. 17, Blk. B-2.
Elev. 2,951 ft.; T.D. 3,537 ft.; set csg.

Gulf Prod. Co.'s No. 3 Keystone Cattle Co., 330 ft. from N and W of NE ¼ Sec. 11, Blk. B-3.
Drlg. 3,055 ft.

Gulf Prod. Co.'s No. 4 Keystone Cattle Co., 330 ft. from N and E, Sec. 20, Blk. B-3.
Drlg. 2,750 ft.

Gulf Prod. Co.'s No. 5 Keystone Cattle Co., 330 ft. from N and W of SW ¼ Sec. 6, Blk. B-3.
Elev. 2,952 ft.; S.D. 2,890 ft.

Gulf Prod. Co.'s No. 6 Keystone Cattle Co., 330 ft. from N and W of NE ¼ Sec. 16, Blk. B-2.
Elev. 2,950 ft.; drlg. 2,922 ft.

Gulf Prod. Co.'s No. 7 Keystone Cattle Co., 330 ft. from N and W of SW ¼ Sec. 14, Blk. B-2.
Elev. 2,954 ft.; rigged up.

Gulf Prod. Co.'s No. 8 Keystone Cattle Co., 330 ft. from S and W of Sec. 13, Blk. B-2.
Elev. 2,964 ft.; rigged up.

Gulf Prod. Co.'s No. 9 Keystone Cattle Co., 330 ft. from S and W of Sec. 18, Blk. B-2.
Elev. 2,946 ft.; rig.

Harry Adams' No. 2 Scarborough, 990 ft. from N line and 990 ft. from W line, Sec. 2, Blk. 77, P.S.L. Sur.
Drlg. 561 ft.

Humble Oil & Ref. Co.'s No. 2-A Walton, 660 ft. from S and W, Sec. 48, Blk. 26. Derrick.

K-D Oil Co.'s No. 1 P. Mitchell, 1,650 ft. from N and 2,310 ft. from E, Sec. 23, Blk. B-10, P.S.L. Sur.
Location.

J. C. Maxwell's No. 1 Brown & Altman,

2,310 ft. from N and 990 ft. from W. Sec. 6, Blk. B-5.
Elev. 2,844 ft.; fishing 2,597 ft.

Mid-Continent Pet. Corp.'s No. 2 Howe, 1,650 ft. from N and 330 ft. from W. Sec. 12, Blk. 36.
T.D. 3,989 ft.; P.B. 3,698 ft.

Richardson's No. 1 Walton, 1,010 ft. from S and 330 ft. from W, Sec. 1, Blk. B-3.
Drlg. 3,208 ft.

Skelly Oil Co.'s No. 2 Halley, 1,320 ft. from N and 2,200 ft. from E, Sec. 25, Blk. B-11, P.S.L. Sur.
S.D. 3,090 ft.

Skelly Oil Co.'s No. 3 Halley, 2,200 ft. from N and 1,320 ft. from E, Sec. 25, Blk. B-11.
Rotary rigged up.

Sioux Oil Co.'s No. 1 Lowett, 330 ft. from N and E, Sec. 36, Blk. 24, P.S.L. Sur.
Fishing 2,727 ft.

Sun Oil Co.'s No. 1 Halley, 2,200 ft. from N and 440 ft. from E, Sec. 24, Blk. B-12, P.S.L. Sur.
T.D. 3,170 ft.; P.B. 2,732 ft.; ran tubing to test.

Weaver et al's No. 1 T. Morton, 330 ft. from S and E of N half, Sec. 11, Blk. B-12.
Elev. 2,767 ft.; drlg. 2,100 ft.

YOAKUM COUNTY

C. J. Davidson et al's No. 1 Bennett ,1,320 ft. from N and E, Sec. 678, John H. Gibson Sur.
Drlg. 2,175 ft.

Texas Panhandle Wildcats

Week Ending June 29

CARSON COUNTY

Danube Oil Co.'s No. 1 Byrum, 308 ft. from N and 409 ft. from E of N½ of NE¼ Sec. 107, Blk. 4, I.&G.N. Sur.
Drlg. 275 ft.

Johnson et al's No. 1 Eller, 330 ft. from N and E, Sec. 200, Blk. 3, I.&G.N. Sur.
S.D. 2,120 ft.

Phillips Pet. Co.'s No. 2 Cooper, 327 ft. from N and 989 ft. from W lines of S½ of SE¼ of Sec. 4, Blk. 9, I.&G.N. Sur.
T.D. 3,075 ft.; pumped 119 bbls. in 12 hrs.; pumped off.

Robert Watchorn's No. 1 Eller, 330 ft. from S and E lines of W½ and SE¼ of Sec. 9, Blk. 7, H.&G.N. Sur.
Drlg. 3,225 ft.

Texoma Nat. Gas Co.'s No. 1 Crutchfield, 1,325 ft. S and 1,328 ft. W, Sec. 37, Blk. 4, H.&G.N. Sur.
T.D. 2,445 ft.; ran csg.

CHILDRESS COUNTY

Alma Oil Co.'s No. 1 Lowe, 660 ft. from N and W of SW¼ Sec. 417, Blk. H, W.&N.W. Sur., S of Kirkland.
T.D. 5,653 ft.; still swabbing.

Larkins & Warr's No. 1 M. F. Williams, at common corners of Secs. 507, 483, 484 and 508, Blk. H, W.&N.W. Sur.
Drlg. 475 ft.

COLLINGSWORTH COUNTY

T. Hunter et al's No. 1 Hill, 330 ft. S and 180 ft. E, Sec. 19, Blk. 17, H.&G.N. Sur.
Drlg. 2,200 ft.; est. 1,000,000 ft. of gas at 1,940 ft.

Smith Bros.' No. 1 Pierce, C NE¼ Sec. 107, Blk. 21, H.&G.N. Sur.
S.D. 50 ft.

COTTLE COUNTY

Texas Co.'s No. 8 Johnson, 500 ft. N and 318 ft. W of most northerly cor. of J. A. Smith Sur.
Rig.

DALLAM COUNTY

Eben Warner's No. 1 Jarboe, 1,520 ft. from S line, 415 ft. from W line, Sec. 2, B.&B. Sur.
Drlg. around 3,450 ft.

GRAY COUNTY

Bell O. & G. Co.'s No. 1 Furneaux, 434 ft. from S and E lines of SE¼ of Sec. 110, Blk. B-2, H.&G.N. Sur.
T.D. 3,120 ft.; bailing oil.

Clark & Smith's No. 1-B Short, 126 ft. from N and 330 ft. from E of NW 40 acres, Sec. 3, Blk. 1, H.&G.N. Sur.

Drilling Exploration Co.'s No. 1 Lapold, 330 ft. S and W, Sec. 141, Blk. 3, I.&G.N. Sur.
Material.

Tom Doswell's No. 1 Herndon, 330 ft. from S and W lines of SE¼ of SW¼ of Sec. 166, Blk. 3, I.&G.N. Sur.

Farliss et al's No. 1 Ball, 330 ft. from S and E lines of NW¼ of Sec. 6, Blk. 3, B.B. Sur.
S.D. 1,844 ft.

Hagy et al's No. 1 Chadwick, 320 ft. N and E. Sec. 210, Blk. B-21, H.&G.N. Sur.
Drlg. 2,420 ft.

Harry Foster's No. 1 Johnson, 330 ft. from N and E lines of Sec. 21, L. L. Erwin Sur. Spudded and S.D.

Warner's No. 1 Taylor, 330 ft. N and W of SE¼ Sec. 8, Blk. 8, A. W. Wallace Sur.
T. D. 3,116 ft.; swabbed 106 bbls. in 24 hrs.

McLaughlin et al's No. 1 Baggerman, 330 ft. from S and E of NW¼ Sec. 64, Blk. 3, I.&G.N. Sur.
Rig.

McLaughlin et al's No. 1 Saunders, 330 ft. from S and 345 ft. from W lines of S½ of NE¼ and Sec. 3, Blk. 1, B.S.&F. Sur.
T.D. 2,918 ft.; top pay 2,885 ft.; swabbed 117 bbls. in 17 hrs.

Plains Holding Co.'s No. 1 Morse-Gulf 330 ft. S and W, Sec. 57, Blk. 25, H.&G.N. Sur.
Material.

Vulcan Oil Corp.'s No. 1-A Kinnard, 1,180 ft. from N and 150 ft. from W lines of E½ of SW¼ of Sec. 41, Blk. 25, H.&G.N. Sur.
T.D. 2,533 ft.; C.O.

HUTCHINSON COUNTY

Barnsdall Oil Co.'s No. 1 Lewis, 330 ft. N and E of W½ of E½, Sec. 7, Blk. 23, B.S.&F. Sur.
Drlg. 912 ft.

Gulf Prod. Co.'s No. 1 Pitcher, 330 ft. N and W, Sec. 19, Blk. M-21, T.C. Sur.
Rig.

Owl Oil Co.'s No. 1 Moore, 275 ft. S and W of NW 80 acres of NW¼, Sec. 21, Blk. M-21, T.C. Sur.
Drlg. 636 ft.

Phillips Pet. Co.'s No. 1 Daniel Dial, 330 ft. from S and 325 ft. from E lines of Sec. 36, Blk. M-23, T.C.R.R. Sur.
Location.

Power Pet. Co.'s No. 1 Hodges, 660 ft. S and E of most southerly 80 acres of S 160 acres of SE 200 acres, Sec. 16, Blk. M-35, T.C. Sur.
Rig.

Stinnett Oil Co.'s No. 1 Starnes, 330 ft. from N and 275 ft. from W of E½ of NW¼ Sec. 22, Blk. M-23, T.C. Ry. Sur.
S.D. 600 ft.

Texas Plains Oil Co.'s No. 1 State, 2,500 ft. SW of SW cor. of Sec. 15, Blk. 47, H.&T.C. Sur., and 330 ft. from N bank of Canadian River.
Spudded and shut down.

Texilvania Oil Co.'s No. 1 Thompson, 440 ft. N and 2,735 ft. E, Sec. 15, Blk. M-23, T.C. Sur.
T.D. 3,027 ft.; put on pump.

KING COUNTY

Davis, Heydrick et al's No. 1 Masterson, NE cor. Blk. 50, F. P. Knotts Sur.
S.D. 4,118 ft.

MOORE COUNTY

Alma Oil Co.'s No. 1 Ward, 330 ft. N and W of SW¼, Sec. 63, Blk. 44, H.&T.C. Sur.
Drlg. 3,368 ft.

Shamrock O. & G. Co.'s No. 1 Bruley & Ryan, C SW¼ of NE¼ Sec. 168, Blk. 3-T, T.&N.O. Sur.
Location.

OCHILTREE COUNTY

U. S. Oil Corp.'s No. 1 W. R. Norris, 330 ft. S and 990 ft. E, Sec. 212, Blk. 43, H.&T.C. Sur.
Rigged up.

RANDALL COUNTY

English et al's No. 1 Oxnard, 350 ft. from N and 1,320 ft. from E lines of NE¼ Sec. 85, Blk. 2, A.B.&M. Sur.
Fishing 5,685 ft.

WHEELER COUNTY

C. & H. Drlg. Co.'s No. 1 Binkley, 330 ft. from S and W lines of NE¼ of Sec. 25, Blk. 24, H.&G.N. Sur.
S.D. 2,400 ft.

H. G. Barnett et al's No. 1 Pryor, 330 ft. N and E of E½ NE¼ Sec. 48, Blk. 13, H.&G.N. Sur.
S.D. 2,245 ft.; H.F.W. 2,244-45 ft.

Martin & Dubose's No. 1 Schwarting, 330 ft. from S and 990 ft. from W lines of SE¼ of Sec. 53, Blk. 13, H.&G.N. Sur.
T.D. 2,700 ft.; est. 45 bbls. daily.

Northern Texas Utilities' No. 1 Calihon, 330 ft. from N and E of SE¼, Sec. 72, Blk. 13, H.&G.N. Sur.
Drlg. 1,240 ft.

Phillips Pet. Co.'s No. 1 Binkley, 330 ft. N and 990 ft. W of W½ of SW¼, Sec. 49, Blk. 24, H.&G.N. Sur.
Drlg. 2,400 ft.

Smith Bros.' No. 1-B Harlan, 330 ft. from N and 990 ft. from W lines of W½ of SW¼ of Sec. 49, Blk. 24, H.&G.N. Sur.
T.D. 2,583 ft.; 400 bbls. oil in 5 days.

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LAPWELD PIPE ... ... SEAMLESS TUBING

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BRACKENRIDGE PENNA.
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ALLEGHENY PRODUCTS SHEETS for Automobile Bodies, Metallic Furniture, Deep Drawing ALLEGHENY METAL ALLEGHENY ALLOYS ELECTRICAL SHEETS STEEL CASTINGS SEAMLESS TUBING BOILER TUBES PIPE

Rocky Mountain Runs

Estimated daily average crude oil production for the week ending June 29, follows:

	Bbls.
Wyoming	
Salt Creek	17,140
Big Muddy	1,620
Badger Basin	30
Black Mountain	280
Byron	1,310
Dallas Derby	590
Dutton Creek	70
Elk Basin	30
Ferris	10
Frannie	380
Garland	530
Grass Creek	3,990
Hamilton Dome	1,340
Hudson	260
LaBarge	1,360
Lance Creek	1,130
Lost Soldier	1,110
Mule Creek	Shut in
Midway	50
Notches	Shut in
Oregon Basin	3,540
Osage	660
Pilot Butte	30
Rock River	1,590
South Casper	550
Poison Spider	190
Teapot	30
Waugh Dome	300
Total Wyoming	38,380
Montana	
Buckley-Border	250
Cat Creek	850
Cut Bank	4800
Kevin-Sunburst	3,300
Lake Basin	50
Pondera	860
Total Montana	10,110
Colorado	
Florence	150
Ft. Collins and Wellington	410
Iles Dome	2,800
Moffatt	390
Orchard	80
Rangely	70
Tow Creek	160
Total Colorado	4,060
New Mexico	
Artesia	590
Cooper area	5,500
Eunice area	7,700
Hobbs	31,400
Hogback	160
Hospah	Shut in
Jal	4,000
Lea area	1,400
Maljamar	1,500
Rattlesnake	690
Table Mesa	90
Total New Mexico	53,030
Total Rocky Mountain Region	105,580

Two men well known to Gulf Coast drilling contractors, and who are welcome on anybody's derrick floor, were snapped in the field recently while renewing an acquaintance of long standing. They are (left): A. I. (Alf) Matlock, special field representative of the Corbett Corp., Houston, and W. B. Sharp, president of the Mission Manufacturing Co., Houston.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Industrial Fuel Oils Frequently Low Gravity and High Viscosity

It is my understanding that certain large users of industrial fuel oil use a heavy oil which may show viscosities as high as 600 at 140 Furol. Do you know of any such users? How is this fuel oil described? What specifications might be demanded?—P. A. T.

A large quantity of industrial fuel oil is marketed having viscosities above 600 Furol at 122° F. Recent sales have been made of an oil showing above 300 Furol at 210° F.

There is considerable advantage in purchasing the heavy oils with a high viscosity because fuel oil is sold on a volume basis; the high viscosity oils are of low gravity and weigh more per barrel as the A.P.I. gravity becomes less. This means more heat units are available in the heavier oils. Heat units are expressed in B.t.u. per pound.

The difficulty experienced in handling these heavy industrial fuel oils is that they do not flow at low temperatures, consequently it is essential that the tank cars be provided with heating coils, and that the storage tanks be similarly equipped, so that the oil can be heated to high enough temperature to flow easily at all seasons of the year.

The trade designation for the low gravity and exceptionally high viscosity fuel oils is simply heavy fuel oil. The usual practice is to specify that the oil shall not contain solid material above 2 per cent and that it shall be free from water. Sometimes viscosity, sulphur, flashpoint, and gravity are regulated.

Grote Method For Determining Sulphur in Petrolum Products

Will you kindly give me a description of the Grote method for determining total sulphur in petroleum? I have a reference to La Revue Petrolifere, July 23, 1932, page 392, but I do not have this publication and have been unable to find this method in the books available.—H.T.N.

The Library Bulletin of Abstracts, vol. 7, page 179, describes the Grote Method for Sulphur. The outline given here is abstracted from this description, which is from the reference mentioned.

Grote's method of determining total sulphur in petroleum products consists essentially in catalytic combustion of the product in contact with porous partitions of partially fused glass heated to redness. The sulphur is oxidized to sulphur dioxide. The combustion gases are aspirated through a solution of oxygenated water. The sulphur dioxide is oxidized to sulphuric acid and this is titrated with carbonate of soda. The method is applicable to all forms of sulphur, hydrogen sulphide, mercaptans, free sulphur, thiophene, disulphide, etc. The main part of the apparatus is a transparent quartz combustion tube 46 cm. long by 18—20 mm. in diameter. This is connected to the vertical absorber tube standing at the end of the combustion tube.

If the oil has an initial boiling point above 392° F. the sample in a porcelain boat is placed in the tube at a point about one-third of the length from the end at which the aspirating air enters. The oil is vaporized by heating with a small flame and the vapors drawn through the tube past a diaphragm with an opening in the center and through two partitions of fritted glass heated to dark redness. It is here that catalyzed combustion takes place. The products of combustion pass into the absorber and are bubbled through the 25 cc. of oxygenated water, prepared by diluting 30 per cent perhydrol to 10 times its volume with distilled water. At the close of the operation the contents of the boat are calcined vigorously. If the sulphuric acid formed is titrated with sixteenth-normal sodium carbonate, the percentage of sulphur can be calculated from the formula n/10p, where n is the number of cc. of sodium carbonate required and p is the weight of the sample.

When a fuel distilling over entirely below 392° F. is to be analyzed, the sample is weighed into a 50 cc. distilling flask with a side arm long enough to reach to a point about an inch before the perforated diaphragm in the combustion tube, discharging the vapors there. Primary air is conducted into the flask by a tube through the stopper reaching down to the base of the neck; but a secondary current of air is also introduced into the combustion tube through the stopper at the front end. For light gasolines it is not necessary to apply heat to the flask so long as the lighter fractions are drawn through the combustion tube with the primary air. With very light fuels, for instance aviation and natural gasolines, the vapors may be drawn into the combustion tube merely by the secondary air, with the primary air shut off. This can be prevented by surrounding the distilling flask with ice water.

To determine the sulphur in a crude oil or any mixture of light and heavy fractions, the first part of the run is made with the sample in the distilling flask. When topping is complete, part of the residue is placed in a boat and the determination completed as before.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit problems to Dr. C. K. Francis. Questions should give as much detail as possible. Inquiries must be signed but only the given initials will be printed. The source of questions is considered confidential. Questions requiring discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered

Some Terms Used in Marketing

It will be highly appreciated if you will inform me what is the meaning in the United States of the terms—Cartel; Joint sales; Pool; Trust.—H. N.

Cartel—An agreement between two opposing units, usually nations, providing for the regulation of business between them in case of war or some condition whereby the usual intercourse is impossible.

Joint sales—Commodities or securities are frequently brought together or accumulated for sale as an entirety, and when sold there would therefore be a joint sale.

Pool—A combination of interests. Example: A number of persons contribute a fund to form a pool for buying and selling.

Trust—A combination of a number of companies or units operating under an agreement. Example: A corporation may be organized as a trust by placing a majority of the stock in the care of a board of trustees.

Methods For Removing Hydrogen Sulphide From Gases

We are endeavoring to gather all information covering the removal of hydrogen sulphide from gas by other methods than treating with alkaline solutions. If you have a list of these methods we would be glad to have a copy.—S. T. A.

A very complete review of the methods for removing sulphur from gases by Franz Fisher was published in Brennstaff-Chemie in 1929 and abstracted in Petroleum Times, September 14, 1929, page 492, from which this brief extract has been made for the purpose of answering the question.

In the first place mention may be made of the use of sodium carbonate solution, which is a method used for desulphurizing natural gas. In this the sulphur, as hydrogen sulphide, is absorbed by washing the gas with the solution. The compound formed is NaHS. The solution is regenerated by a blast of air or flue gas.

Ferric hydrate is a common desulphurizing agent in town gas-works, but it is effective only for hydrogen sulphide. An air blast through the ferric compound breaks up the sulphides formed, with the separation of elementary sulphur and the regeneration of the hydrate.

A modification of this method is where the ferric compound is used dry and kept in use until the sulphides formed make the material a suitable source of sulphur dioxide for sulphuric acid making. In this case the material is regenerated by roasting.

Washing the gases with solutions of certain copper salts will remove most of the hydrogen sulphide present. When a solution of copper sulphate is used the hydrogen sulphide forms with it CuS, which is somewhat easily oxidized again to copper sulphate and sulphuric acid. Hence, the net result of this is the recovery of the sulphur of the gases in the form of sulphuric acid. But generally it is desired to recover the sulphur as such, and other copper salts must be used. A solution of cupric chloride, in a strong solution of brine at about 80° C., is a very effective absorbent for hydrogen sulphide, forming elementary sulphur, hydrochloric acid, and cuprous chloride. The sulphur is recovered from its suspension in the liquid and the liquid, which contains the hydrochloric acid and cuprous chloride, is treated with an air blast which causes these two substances to combine to form the original cupric chloride.

Of particular interest is the method of desulphurizing gases used by the I.G. Farbenindustrie A.G., on a large scale. In this process active carbon is used to absorb the sulphur compounds, but it is necessary that the gases contain a little ammonia and free oxygen, which is obtained by adding a little air to the gases.

The hydrogen sulphide becomes oxidized to sulphur in the pores of the carbon, and is periodically dissolved by a solution of ammonium sulphide. By evaporating the ammonium sulphide from the solution, the sulphur is obtained in a very pure state.

The long known method of using the mutual reaction of sulphur dioxide and hydrogen sulphide to obtain elementary sulphur can be applied to desulphurize gases, but is not entirely free from objection.

The reaction proceeds according to the following equation:

$$2H_2S + SO_2 = 3S + 2H_2O.$$

Ozone has also been used as a gas desulphurizer, but this extremely active oxidizing agent converts a large part of the sulphur to sulphuric acid. Chlorine gas acts in a similar way to ozone, showing a strong tendency to form acid.

PERSONAL PARAGRAPHS

L. O. RIPLEY, president of the Kansas Gas & Electric Company, has been made president of the State Chamber of Commerce in Kansas.

E. R. FILLEY, manager of the Kansas-Oklahoma division of the Texas Company, spent part of the past week in the Kansas fields.

CHARLES RUDY, superintendent of transportation for the Marathon Oil Company, returned to Tulsa recently from a vacation trip.

MR. and MRS. H. L. WIRICK, of Okmulgee, Okla., are visiting in California. Mr. Wirick is an active operator in the Oklahoma fields.

F. M. BRANDENBURG, professor of geology at Eldorado Junior College, in Kansas, and WILLIAM BRANDENBURG, of Tulsa, recently visited Calgary and Banff, Alberta, on a motor tour. They will spend a month in California before returning home.

DANA HOGAN, president of the Hogan Petroleum Company, and first operator to get commercial production in the Mountain View Field of Kern County, California, slipped off the other day and was married while operators were worrying about proration.

E. H. TRIPHAUS, manager of the Tulsa office of Taylor Instrument Companies, and ROY O'NEIL, manager of the Industrial Scientific Supply Company, of Houston, Tex., have returned from a two weeks' trip in the East, visiting the Rochester, N. Y., factory of the Taylor Instrument Companies, and making a brief visit in Washington, D. C.

JACK BAKER, Tulsa driller, left this week for Caripito, Venezuela.

COL. W. E. EASTERWOOD, of Dallas, Tex., has been spending the past week in Los Angeles, Calif.

DR. J. B. UMPLEBY, Norman, Okla., with his family, have moved to their summer home near Seattle, Wash.

ED NOBLE, Okmulgee, Okla., oil operator, and family, have started on a trip that will include parts of Alaska.

F. W. FLOYD, production engineer, Carter Oil Company, Tulsa, was a visitor in the Oklahoma City Field last week.

L. W. ROGERS has returned to London, England, where he has established offices as the representative of the Hughes Tool Company.

C. T. AYERS, treasurer of the Union Carbide Company, New York City, left for Europe on the Ile de France, of the French line, June 29.

H. R. MILNER, K.C., president of Northwestern Utilities, Ltd., has returned to Edmonton, Alberta, from an extended trip to eastern Canada.

D. A. MacDONALD, of Vancouver, British Columbia, is in Comrey, Alberta, supervising the drilling operations of Comrey Oil Company.

G. A. POOLE, petroleum engineer for the Gulf Production Company, Odessa, Tex., and family, have just returned from a vacation spent in the New England states.

O. G. BITLER, of Kansas City, Mo., vice president of the Westgate Oil Company, was a Tulsa visitor in the past week.

GEORGE D. FOSTER, superintendent of the land department of the Devonian Oil Company, Tulsa, has returned from a business trip to Pittsburgh, Pa.

THOMAS FRASER SUTHERLAND, B. SC., has been appointed deputy Minister of Mines for Ontario, succeeding THOMAS W. GIBSON, who will continue with the mines department as advisory consultant.

DR. IRVING LANGMUIR, associate director of the General Electric Research Laboratory, has been awarded the Holley Medal for 1934 by the American Society of Mechanical Engineers, for his contributions to science and engineering.

T. E. SCANLON, for several years associated with the Richfield Oil Company in the San Francisco Bay region and who recently resigned from this company, has been made San Francisco district manager of the General Petroleum Corporation, succeeding W. H. SCHETTER, who has been transferred to San Jose, Calif.

W. R. MONTGOMERY, of the Standard Oil Company of California, has been appointed assistant district sales manager in Seattle, Wash., succeeding S. E. NORD who has been assigned to special detail in British Columbia in connection with the company's projected plans to enter western Canada in the marketing and refining branches of the business.

CHIEF GEOLOGIST DAN NUFER, and CHIEF SCOUT TOM BROWNFIELD, of the Carter Oil Company, Tulsa, spent last week on a tour through some of Oklahoma's oil fields.

JOHN CUTTER, formerly superintendent of the Producers & Refiners Corporation's refinery in West Tulsa, Okla., has joined the Sinclair Refining Company's staff in Fort Worth, Tex.

FRANK C. HART, president of the Hartol Products Corporation, New York City, and MISS MURIEL CONSTANCE WOODWORTH, of New York City, were married at Reno, Nev., June 28.

FRED T. HILDT, founder of the Investor Royalty Company, and its president for years, has retired from that position and opened an office in Tulsa for the purchase and sale of oil and gas royalties.

E. YOKOYAMA, of Mitsubishi Shoji Kaisha, one of the largest importers of crude and fuel oil in Japan, has been paying a brief visit to Los Angeles and San Francisco, Calif. A considerable portion of the imports of Mitsubishi from California is furnished by the Associated Oil Company.

GEORGE W. VOS, advertising manager of the Texas Company, New York City, has been placed in charge of all radio advertising as assistant to the vice president in charge of sales. He has been associated with the Texas Company for the past 25 years. RAYMOND BROWNE, who has been acting as a consultant in advertising for the company, has been appointed advertising manager.

RALPH E. FAIR, independent operator of Dallas, Tex., is in Mexico on a short pleasure trip.

FRANK RUBEN, of the Terminal Oil Company, Los Angeles, Calif., is in Lethbridge, Alberta, on business.

DR. T. A. LINK, of Imperial Oil, Ltd., geological staff, visited Lethbridge and other southern Alberta points recently.

M. J. DAVIES, of Globe Royalties, Ltd., of Calgary, Alberta, is on a business trip to interior British Columbia and the Pacific Coast.

GEORGE ECHOLS, drilling contractor of Houston, Tex., is on a business and pleasure trip to New York. He is accompanied by his wife.

R. T. LYONS, head of the land department of Skelly Oil Company, has returned to Tulsa after a trip over Skelly properties in the Gulf Coast fields.

WALTER B. PYRON, vice president of the Gulf Production Company, Houston, Tex., has completed a trip through the West Texas and Panhandle districts of Texas.

DR. H. M. TORY, who recently retired as head of the National Research Council of Canada, has been elected president of the Dominion Fire Prevention Association.

C. L. MAGUIRE, president of the Roosevelt Oil Company and the Simrall Pipe Line Company, of Mount Pleasant, Mich., has returned from a two weeks' vacation at his cabin in northern Michigan.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

July 5, 1910

John Alexander, age 86, died recently in Malmesbury, England, his native city. He built a refinery at Pioneer Run, Venango County, in 1861, and made a contract with Capt. A. B. Funk, owner of the first flowing well for 50 bbls. of crude oil per day, at 45 cents per barrel.

James Harvey Hanks, torpedo manufacturer and well shooter, well known wherever oil is produced in the United States, died today at Bartlesville, age 55 years

An ambitious city councilman in Shreveport, La., introduces a resolution providing that the city go into the gas business by acquiring leases and drilling wells, the resultant gas to be delivered free of all charge to manufacturing plants in Shreveport.

20 YEARS AGO

July 8, 1915

Harry F. Sinclair, of Tulsa, is being boomed for Republican National Committeeman from Oklahoma.

John H. Yust, for many years traffic manager of the Gulf Pipe Line Co. of Oklahoma, but recently manager of the Cosden Refining Co., dies in San Antonio of tuberculosis.

The largest casinghead gasoline plant in the world is located 2 miles south of Keifer, Okla., and is owned by the Gypsy Oil Co. It has a capacity of 2,000,000 feet of gas per day and extracts therefrom between 10,000 and 14,000 gallons of gasoline per day. W. P. Donovan is in charge.

10 YEARS AGO

July 2, 1925

John W. Heffernan, sales manager of the Indian Refining Co., formerly with the fuel oil department of the Standard Oil Co. of New Jersey, dies in Chicago.

M. H. Whittier, multimillionaire oil capitalist, dies in Redlands, Calif. He was a native of Maine but went to California in 1888 as a driller. He was on the executive board of the Associated Oil Co. and president of many other California corporations.

States Oil Corp. has a well in the Eastland, Texas, Field that likes to keep the Sabbath. As a rule it is pumped six days a week, but when it is (infrequently) pumped on Sunday the output declines to the regular six-day average.

H. U. GARRETT, representative for the Guiberson Corporation in West Texas and New Mexico, has been transferred from Houston to Midland, Tex.

■

A. W. NIXON, vice president of the Happy Belting Company, Fort Worth, Tex., and family, have returned from a vacation and business trip to St. Louis, Mo.

■

JOHN M. CRAWFORD, chairman of the board, Parkersburg Rig & Reel Company, Parkersburg, W. Va., has recently returned home from a trip to the Pacific Coast.

■

JAMES W. TOWART, general production superintendent, Romano Americana Oil Company, Rumania, is inspecting oil fields in the Mid-Continent and will later go to the Gulf Coast.

■

E. H. ROY, superintendent of the East Chicago plant for the Empire Oil & Refining Company, was in the Tulsa offices of the company the past week, returning to Chicago over the week-end.

■

W. C. HOWELLS, for some time with the petroleum and natural gas division of the Alberta Lands and Mines Department at Edmonton, will spend the summer in charge of a federal geological survey party in the Foremost area of southern Alberta.

■

HENRY G. HUNT, executive secretary of the Oil and Gas Association of Michigan, was notified last week by OSCAR G. OLANDER, of Lansing, Mich., state commissioner of public safety, that state police will be furnished to patrol leases where wells are drilling in, with possible danger to spectators.

■

S. F. SHAW has been engaged as consulting engineer by the Watchorn Oil & Gas Company in the Oklahoma City Field.

■

WALTER MORAN, of Tulsa, was a business visitor in New York City for several days this week and will return to Tulsa Sunday.

■

J. L. DUNCAN, formerly store manager for the Houston Oil Field Material Company at Eunice, N. Mex., has been transferred to the Houston, Tex., headquarters of the company.

■

THOMAS H. ALLEN, geologist, has joined the Twin Drilling Company, of Bartlesville, Okla., which in the past 12 years has been active in wildcatting and production in Kansas fields. Mr. Allen since 1922 has been employed by the Midwest Refining Company, and Stanolind Oil & Gas Company in their geological departments. Mr. Allen will move from Tulsa to Wichita, Kans., where he will make his headquarters.

■

JIMMY DOOLITTLE, noted speed pilot and head of the aviation gasoline sales department of the Shell Petroleum Corporation, landed at the Muskegon, Mich., county airport June 25, with his son, JIMMY, JR., en route to summer camp at Stony Lake, Oceana County. He was met by ANDREW RIEKSE, of Grand Rapids, head of the Colonial Oil Compay, western Michigan Shell distributor, and A. S. LEONARD, Muskegon manager.

■

JAMES McALEAR, president of the McAlear Manufacturing Company, of Chicago, gas and oil control equipment manufacturer, has announced his marriage to MRS. ALFRED WALSH, a member of one of the pioneer Chicago families, and daughter of the late JOHN W. GARVEY. They are taking an extensive honeymoon trip in Europe. Their tour will include the principal points of interest in Iceland, Norway, Sweden, Finland, Denmark, Estonia, the Soviet Union, Switzerland, Germany, France, Austria, Belgium, and England.

Joins Brother in Oil Development

John C. Nicklos, who recently resigned as manager of the Gulf Coast division of the Continental Oil Company to enter private business, had been associated with Continental since 1924, when the Santa Fe Corporation, of which he was superintendent, operating in New Mexico, was taken over by it. He had been in charge of Continental's Gulf Coast operations since 1933. Prior to that for three years he had been assistant general superintendent in Texas. For almost a year he was in Austria, looking after the drilling of a well in which his company was interested.

JOHN C. NICKLOS

For about 29 years Mr. Nicklos has been actively engaged in oil drilling and production in various parts of the world. He was born in Petrolia, Canada, and his early boyhood was passed in the oil fields of that area. His father, Charles Nicklos, went to Poland in 1889 to build a refinery for W. H. McGarvey, pioneer developer of oil fields in that country, and in 1903 John Nicklos followed. Later went to work for Mr. McGarvey. In 1910, though only 24, he went to Algiers as superintendent for the Oran Syndicate, where thrown on his own responsibility, his resourcefulness was put to severe tests.

In 1912 Mr. Nicklos went to Peru, where for three years he was superintendent for Lobitos Oil, Ltd. Three years later he joined his brother, Ernest J. Nicklos, in the drilling contracting business. In 1922 he began contract drilling on his own account in the Gulf Coast, continuing in that business until 1924, when he joined the Santa Fe Corporation, later absorbed by Continental. He and his brother, Ernest Nicklos, who also had been with Continental as vice president in charge of production, are now developing properties of their own in the Gulf Coast region.

GLENN SKINNER, secretary-treasurer and general manager of Black, Sivalls & Bryson, Inc., Oklahoma City, Okla., has returned with his family from the International Rotary convention at Mexico City, Mexico.

■

HARRY H. POWER, chairman, Petroleum Division, American Institute of Mining and Metallurgical Engineers, accompanied by MRS. POWER, is leaving soon for a vacation trip along the Pacific Coast from San Diego, Calif., to Seattle, Wash., and will visit at his home in Spokane, Wash., before returning.

■

GEORGE PIRTLE, of the consulting firm of Hudnall & Pirtle, geologists, at Tyler, Tex., arrived in Michigan last week to spend about two months or more working for the McClanahan Oil Company, of Mount Pleasant, Mich. Mr. Pirtle has done considerable work in Michigan during the past five years with the McClanahan company.

■

E. C. STEFFY, of Chicago; M. L. CRABTREE, of Kansas City; C. W. FULKERSON, of St. Paul; PAUL LEE, of Chicago; R. A. BIETZEL, of St. Louis; A. G. BARTLETT, of Chicago, and L. T. WHITE, JAMES DE LANEY, and MAYNARD LANDA, of New York, were in Tulsa several days the past week participating in a general sales meeting of salesmen and sales promotion men called by O. J. TUTTLE, sales manager for the Empire Oil & Refining Company.

■

C. A. HOGENTOGLER, senior highway engineer, and E. A. WILLIS, assistant highway engineer, U. S. Bureau of Public Roads, have been chosen as the winners of the Charles B. Dudley Medal for 1935, awarded annually by the American Society for Testing Materials to the author or authors of the paper presented at the preceding annual meeting of outstanding merit and constitutes an original contribution to research in engineering materials. The winning paper presented in 1934 was entitled "Subgrade Soil Testing Methods."

HOWARD E. FELT, secretary of the Warren Petroleum Company, Tulsa, and his family left Thursday for a month's vacation at Chautauqua Lake, N. Y.

■

M. E. WAGNER, vice president in charge of production and engineering, Marathon Oil Company, Tulsa, has just completed a trip including the West Texas, New Mexico, eastern Colorado and western Kansas oil fields.

■

DR. S. C. ELLS, of the mines branch, Department of Mines, at Ottawa, Ontario, left recently via Edmonton, for northern Saskatchewan, where he will be engaged this summer on geological survey work in the Lac La Ronge area.

■

DR. L. S. RUSSELL, of the Geological Survey at Ottawa, Ontario, has established headquarters at Foremost, Alberta, for a survey of oil and gas possibilities in the southern part of the province. The work will continue until October.

■

CHARLES B. CARPENTER, Dallas, Tex., with the Bureau of Mines, addressed the monthly meeting of the West Texas Geological Society at San Angelo on June 22. He presented an informal discussion based on the bureau's study of the Howard-Glasscock Field.

■

SENOR BENITO GONZALES, of the Marathon Oil Company of Mexico, his secretary, SENOR LOPEZ, both of Mexico City, and SENOR ALESSANDRO, Nuevo, Laredo, Mexico, D.F., are spending a week in Texas and Oklahoma on business. While in Fort Worth they were entertained by L. N. PERRY, of the Texas Pacific Coal & Oil Company.

■

T. J. (TOM) MOORE, formerly with the Simms Oil Company, Dallas, Tex., announces that he is going into business as an independent operator, still maintaining headquarters in Dallas.

■

A. J. BAUERNSCHMIDT, paleontologist for the Magnolia Petroleum Company at Lake Charles, La., was transferred to Houston, Tex., July 1. He was succeeded in Lake Charles by DR. C. I. ALEXANDER who was located at Shreveport, La.

■

FERRO WILLIAMS, treasurer of the George F. Getty Company, has been elected president of the Los Angeles Petroleum Accountants Society, and ROY HORNIDGE, of the Union Oil Company, and R. L. MINCKLER, of the General Petroleum Corporation, were elected vice presidents at the annual meeting of the association held in Los Angeles. D. A. (DAVE) KILGOUR, of the California Oil and Gas Association, was re-elected secretary-treasurer.

■

H. H. HEWETSON, former vice president and general manager of the Standard Oil Company of Louisiana, at Baton Rouge, La., was the guest of honor at a farewell dinner at the Heidelberg Hotel last Friday night, on occasion of his transfer to the Imperial Oil Company, Canada. Officials of the Louisiana company presented to him a gold wrist watch. He is succeeded at Baton Rouge by M. J. RATHBONE, formerly general superintendent of the refinery.

■

SHELL Oil Company has completed its new reorganization program in California and this plan puts H. W. STEWART as division manager at San Francisco and R. G. FRANCISCUS at Oakland. Other division managers include H. L. CURTIS at Sacramento; R. B. JENSEN at Fresno; C. C. VAN FLEET at Seattle; J. E. PENDERGAST at Spokane; E. R. RAPHAEL at Portland; P. J. PIEROTH at Los Angeles; S. EDDY in southern California territory; C. H. SHIVVERS at Phoenix; W. A. RICH at Salt Lake City, and J. A. PELL at Honolulu.

Extension of Tax Removes a Perplexity of Group 3, But There Are Others

By T. F. SMILEY

The Group 3 refinery market got rid of one of its worries last Thursday, when Congress passed the bill extending the federal nuisance taxes, including 1 cent a gallon on gasoline and 4 cents on lubricating oils. Removal of this uncertainty had a steadying effect on the trade, which had been getting a bit fidgety, not because the market showed signs of basic weakening, but because buyers didn't know what course to pursue in filling their needs for even the near future till they had definite knowledge concerning retention or abandonment of the tax; for thereon hung the possibility of losing the amount of the tax on every gallon of motor fuel or lubricating oil bought before the tax expired June 30.

Disquieting Reports From East Texas

Then too there were disquieting reports of swollen refinery runs and "chiseling" in East Texas and of efforts in some quarters to return to various forms of trickery which formerly spread demoralization in that area. Inquiry concerning these reports showed that some of them were true. It was evident, however, that in the matter of gasoline sold below the ruling quotations the quantities involved were not large and that either the quality of the material was not above suspicion or the refiner had some reason for getting a few cars off his hands at once. At the same time these instances of departure from sound marketing practices were not to be made light of. They pointed to the need of vigilance and honest co-operation to avoid the chaos which had the gasoline market in a ruinous condition a few short months ago.

Settlement of the tax question had the effect of quickening jobber buying in scattered cases where storage had been allowed to run dry, though for the most part there was not the sharp rise in orders which many had predicted.

Weather conditions which would permit free use of the family car and encourage vacation tours were looked upon as a major requisite for further advance of the motor fuel market, which since last March has been behaving in an astonishingly satisfactory fashion in view of the difficulties which have beset it.

Refined Oil Market Barometer

Although removal of uncertainty concerning extension of Federal tax on gasoline and lubricating oils had a faintly stimulating effect in most areas, there is growing realization throughout the trade that genuine co-operation among refiners and marketers is imperative if gains made in the first half year are to be held. Many are pinning hopes on the stabilization plans being worked out by oil industry leaders under the supervision of C. E. Arnott.

MID-CONTINENT.—Gasoline fairly steady. Natural firm. Kerosene weak.

EAST COAST.—Less cheerful feeling concerning price trends. Stabilization plans watched.

GULF COAST.—Market dull. Prices unchanged.

PENNSYLVANIA.—Whole market inactive.

CALIFORNIA.—Gasoline and kerosene soft.

CHICAGO.—Gasoline steadier. Kerosene weak.

What the Weather Did

Weather reports from throughout the Group 3 consuming area were more cheerful, although they bore no sure message of general restoration of good motoring conditions. June records of government observers strikingly reveal one of the reasons motor fuel consumption fell below the mark which it had promised to make in that month. The rainfall in the Tulsa district, fairly typical of that in most of the territory which draws upon Oklahoma refiners, was 9.15 inches, compared with 2.08 inches in June, 1934, and with a 40-year average of 4.59 inches. In May, 1935, 5.11 inches of rain fell, compared with 2.08 inches in May, 1934.

The storms which produced these records flooded highways, making travel impossible, and inundated farm lands, interfering with normal consumption of tractor fuels. The period of torrential rains was preceded by weeks of dust storms which desolated some areas and hindered motor travel almost as much as rains could have.

Nobody is rash enough to make weather predictions, but persons who talk weightily about the law of averages say there is bound to be an evening up process and that a drenching such as June brought has just got to be compensated for by a season of clear skies.

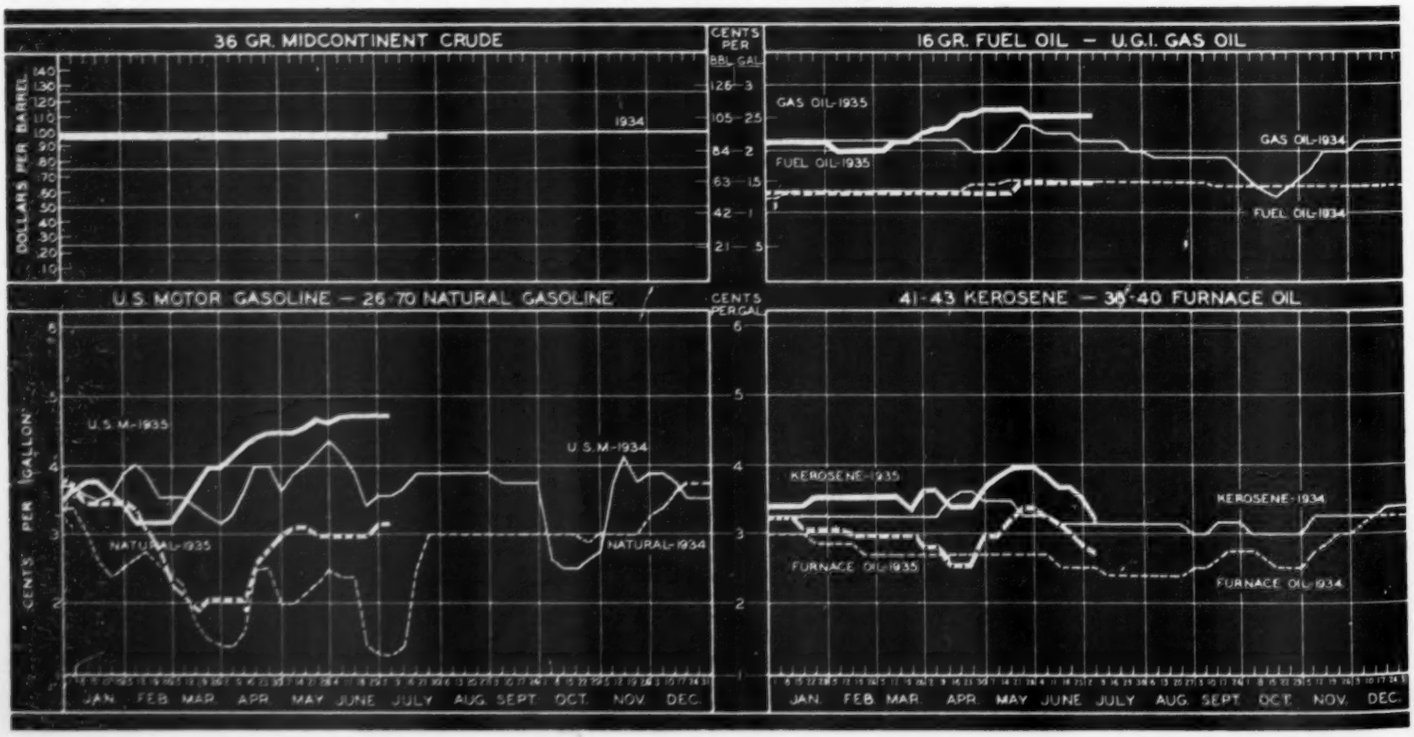
Natural Gasoline Firmer

Natural gasoline was showing increased firmness. Manufacturers evinced a desire to keep quotations at their present levels and in line with the motor fuel market, rather than to permit them to rise at this time in response to the active demand. The movement of all grades was larger than that of last week and spot buying was up slightly. Some large manufacturers reported they were sold up for July. It was said that the 3⅛ cents which stood as the price for 26-70 last week because of a few actual sales at that figure could easily have been maintained, had manufacturers wished to keep it there.

Kerosene and the lighter distillates continued their descent and no pronounced renewal of strength was expected till fall. The 41-43 kerosene was inactive at 3¼ cents, and it was said even that price had been shaded. August threshing may see a little pickup in that material.

U.G.I. gas oil, used largely for cracking purposes, was holding up fairly well, and no change was recorded in quotations throughout the whole list of gas oils and fuel oils.

The lubricating oils experienced a fairly satisfactory week, responding to the better buying sentiment attending definite news that the federal tax was to remain. Wax was lifeless.



Higher Quotations Await Improvement Is Opinion in Eastern Coast Market

By C. O. WILLSON

NEW YORK, July 1.—A new month opened today in eastern refinery markets with less optimism regarding probable future price trends than was the case 30 or 60 days ago. The general attitude of the trade appears to be that the sellers will do well if they are able to maintain the prices now in effect through the month with higher quotations to await improvement in general conditions within the oil industry which will be determined by developments outside this immediate territory.

With the continuance of the federal gasoline and lubricating oil taxes assured through action of Congress the latter part of last week, many sellers were confident that this week would see an improvement in gasoline buying both in the spot market and on contracts. There are differences in opinion as to whether the expectation or hope that these taxes would be allowed to expire on June 30, has been a factor in the dull spot trading of the past month both in motor fuels and lubricants. If some reports are to be credited, many jobbers have greatly reduced their inventories and now will at least be forced to buy to cover their current requirements. Other sellers are fearful that estimates as to the quantity of this postponed buying have been greatly exaggerated and are not anticipating increases in purchases of sufficient volume to be a market factor. These observers are of the opinion that buying from refineries has been in line with actual requirements and that the dullness in spot trading has been due to uncertainty in the crude oil production end coupled with increased supplies.

On the demand side, complete reports on gasoline tax collections in 11 eastern states for the month of April point to a substantial increase in gasoline consumption over March and April, 1934. The indicated consumption for April, 1935 and 1934, is shown in the following table (data in thousands of gallons):

	1935	1934
Maine	7,549	6,853
New Hampshire	4,961	4,815
Vermont	3,416	3,040
Connecticut	21,417	19,609
Massachusetts	48,526	44,997
New York	115,341	120,718
Pennsylvania	96,865	89,439
Rhode Island	9,351	8,220
New Jersey	63,978	52,930
Maryland	17,900	17,069
Delaware	3,525	3,353
Total	391,829	370,843

This gain of 20,986,000 gallons for April this year over April, 1934, amounts to 5.7 per cent. It will be noted that New York State in the above report shows a loss of approximately 5,000,000 gallons for April this year. This is entirely due to the 1-cent additional state gasoline tax which became effective April 1. There were heavy shipments in March before the additional tax became effective, with a corresponding drop early in April. For first four months of 1935 gasoline tax collections in New York State totaled 439,498,000 gallons, an increase of 3.5 per cent over the same period in 1934.

Eliminating New York State from the April figures and the gain in gasoline tax collections for the remaining 10 states over April, 1934, was 10.5 per cent. The gain in March over March, 1934, was 12 per cent. This large gain in eastern gasoline consumption at the start of the main gasoline consuming period are supported by partial data on gasoline tax collections in May. Reports of individual companies up to June 15 also point to a gain in gasoline demand over last year with considerable variation in the percentage. The average indicates a gain around 5 per cent.

What Gain Means

Statisticians point to this increased consumption as indicating a strong gasoline marketing situation with the conclusion that it will prevent any collapse in prices during the summer months at least. A gain of 25,000,000 gallons per month in gasoline demand translated into refinery operations at Atlantic seaboard refineries means an outlet for the gasoline obtained from 50,000 bbls. of additional crude runs to stills. From the gasoline end, this heavy demand may prove a life saver. Unfortunately, there does not at this time appear to be an adequate demand for the products other than gasoline that are obtained from this additional crude oil. In this territory the average gasoline recovery from crude oil is 42 or 43 per cent with yields of individual refiners running above 50 per cent. This leaves 57 gallons of heavier products to be disposed of out of 100 gallons run to stills.

At this time the market on those fractions obtained from crude extending to the heavy residual products is not strong. The kerosene market, both along the Atlantic seaboard and the Gulf Coast, is weaker with sales under 5 cents in New York harbor in tank car lots. The situation in furnace oils, with the No. 4 grade selling at 3½ to 3⅝ cents in tank car lots and one-eighth cent cheaper in small barge shipments, has not improved from last week. There have been reports of substantial price concessions in the Nos. 1 and 2 grades, which are generally quoted at 5 cents for No. 1 and 4 cents for No. 2 by the larger refiners.

Those in touch with this furnace oil market have been hopeful that the low prices for the No. 4 grade would stimulate buying on the part of jobbers, some of whom have large tankage facilities along the coast. So far, it is said, this development has not materialized and more material continues to be offered on the market than can be readily absorbed at this time of the year. No additional declines in prices are expected unless there is a reduction in crude oil prices in the Mid-Continent.

Exporters have said that the California situation might easily become the controlling factor in European markets so far as shipments from this country are concerned. European buyers have been displaying more and more interest in higher octane material. California fits into this situation with supplies of 70 octane gasoline having the desired volatility.

Export gasoline prices at the Gulf are steady following the reductions of 10 days ago. There have been new inquiries in the market, but so far as known no important spot business has been placed over the past week. Sellers state that the Gulf market is in a position to hold for two or three weeks without distress material being offered for sale.

Gasoline quotations for export are slightly lower. The 41-43 water white grade has been quoted under 4 cents at the Gulf. The export market, except on regular contract material, continues inactive. Recent quotations on East Texas crude oil at the Gulf shows that prices are 1 to 2 cents lower than they were in early June. No large supplies are being quoted for coastwise or export shipment.

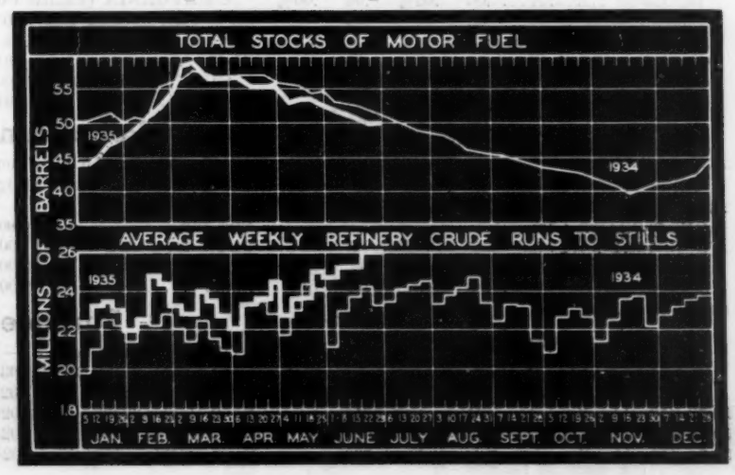
Lubricants and Wax

Manufacturers of all types and grades of lubricants used in blending motor oils are expecting an increased domestic demand, now that it is assured that the 4-cent federal tax will not be removed. The market on bright stocks and steam refined stocks was generally quiet at the close of last week. The seasonal dullness in wax demand continues. One seller reported more interest among exporters in the crude scale grades for fall delivery.

American Petroleum Institute Weekly Refinery Statistics

Week Ending June 29, 1935

	Capacity reporting per cent	Daily crude runs (bbls.)	Finished motor fuel (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	481,000	16,039,000	11,084,000
Appalachian	94.8	113,000	2,215,000	771,000
Ind., Ill., Ky.	95.9	374,000	9,100,000	4,672,000
Okla., Kans., Mo.	84.8	292,000	5,237,000	4,387,000
Inland Texas	48.5	109,000	1,171,000	1,920,000
Texas Gulf	96.4	527,000	5,127,000	10,145,000
Louisiana Gulf	96.4	115,000	1,188,000	3,804,000
N. La. and Ark.	90.0	56,000	268,000	380,000
Rocky Mountain	61.9	49,000	917,000	804,000
California	92.6	485,000	8,745,000	63,851,000
Total United States	89.5	2,601,000	50,007,000	101,818,000



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

	July 2		June 25	
OKLAHOMA (Group 3)—				
U. S. Motor grades:				
Below 63 octane	.04¾	.04⅞	.04¾	.04⅞
63-70 octane	.05⅝	.05¾	.05⅝	.05¾
60-62 400 grade:				
Below 63 octane	.04¾	.04⅞	.04¾	.04⅞
63-70 octane	.05⅝	.05¾	.05⅝	.05¾
64-66 375	.04⅞	.05	.04⅞	.05
68-70 360	.05	.05⅛	.05	.05⅛
NORTH TEXAS—				
U. S. Motor grades:				
Below 63 octane	.04¾	.04⅞	.04¾	.04⅞
63-70 octane	.05⅝	.05¾	.05⅝	.05¾
60-62 400	.04¾	.04⅞	.04¾	.04⅞
64-66 375	.04⅞	.05	.04⅞	.05
NORTH LOUISIANA (Ark., N. La. & Miss. del.)				
U. S. Motor grades:				
Below 63 octane	.05½		.05½	
63-70 octane	.06¼		.06¼	
60-62 400	.05½		.05½	
ARKANSAS (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 63 octane	.05½		.05½	
63-70 octane	.06¼		.06¼	
CHICAGO (based on Group 3)—				
U. S. Motor grades:				
Below 63 octane	.04¾	.04⅞	.04¾	.04⅞
63-70 octane	.05⅝	.05¾	.05⅝	.05¾
60-62 400	.04¾	.04⅞	.04¾	.04⅞
64-66 375	.04⅞	.05	.04⅞	.05
68-70 360	.05	.05⅛	.05	.05⅛
Aviating fighting grade	.05¾	.05⅞	.05¾	.05⅞
PENNSYLVANIA (inland refineries)—				
58-60 U. S. Motor:				
Below 60 octane	.06		.06	
60-64.9	.07		.07	
65-70 octane	.07¼		.07¼	
34-66 375	.06⅜		.06⅜	
68-70 350	.06⅞		.06⅞	
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.04½	.05½	.05	.06
58-60 400	.05	.06	.06	.07
EAST COAST—				
U. S. Motor, below 60 octane:				
*New York (Bayonne)	.05¾		.05¾	
Baltimore	.05¾		.05¾	
U. S. Motor, 60-64.9 octane:				
*New York (Bayonne)	.06		.06	
Philadelphia	.06	.06¼	.06	.06¼
Boston	.06		.06	
Baltimore	.06	.06¼	.06	.06¼
Charleston, S. C.	.06		.06	
U. S. Motor, 65 and above:				
*New York (Bayonne)	.06¼		.06¼	
Philadelphia	.06¼	.06½	.06¼	.06½
Boston	.06¼		.06¼	
Baltimore	.06¼		.06¼	
Charleston, S. C.	.06¼		.06¼	

*All grades of gasoline one-fourth cent less for small barge shipments.

GULF COAST (domestic)—				
U. S. Motor:				
Below 60 octane	.05	.05¼	.05	.05¼
60-64.9 octane	.05¼	.05½	.05¼	.05½
65 octane and higher	.05½		.05½	

Naphtha

	July 2	June 25
PENNSYLVANIA (inland refineries)—		
50-52 450 (blending)	.05⅞	.05⅞
52-54 450 (blending)	.05⅞	.05⅞
54-56 450 (blending)	.06	.06
CHICAGO (based on Group 3)—		
50-52 450 (blending)	.04¾ .05	.04¾ .05
Cleaners' naphtha, 56-58 gr., 200 i.b.p., 320 e.p.	.06⅞ .07	.06⅞ .07
Lacquer diluent, 180 i.b.p. 250 e.p.	.07⅞ .08	.07⅞ .08
Lacquer diluent, 140 i.b.p. 200 e.p.	.08⅞ .09	.08⅞ .09
Rubber solvent, 68-70 gr., 100 i.b.p., 300 e.p.	.06⅞ .07	.06⅞ .07
Stoddard solvent, 300 i.b.p. 410 e.p., over 83° flash	.06⅜ .06½	.06⅜ .06½
Pet. thinner, 290-300 i.b.p. 410 e.p., over 83° flash	.06⅜ .06½	.06⅜ .06½
V.M.&P. naphtha, 56-58 gr. 190-200 i.b.p., 330 e.p.	.06⅞ .07	.06⅞ .07
Petroleum spirits	.05⅞ .06	.05⅞ .06

Natural Gasoline

	July 2		June 25	
OKLAHOMA (Group 3)—				
Grade 26-70	.03⅛		.03⅛	
Grade 18-55	.03¾		.03¾	.04
Low vapor pressure grades:				
14 lb. v.p. (max.)	.04¼	.04½	.04¼	.04½
12 lb. v.p. (max.)	.04⅝	.04¾	.04⅝	.04¾
NORTH TEXAS—				
Grade 26-70	.03		.03⅛	
Grade 18-55	.03¾		.03¾	.03⅞
Low vapor pressure grades:				
*14 lb. v.p. (max.)	.04¼	.04⅜	.04¼	.04⅜
*12 lb. v.p. (max.)	.04⅝		.04⅝	

*Nominal.

NORTH LOUISIANA (Ark., N. La. & Miss. del.)				
Grade 26-70	.03¼		.03¼	
CALIFORNIA—				
75-85 375-390	.04¾	.05¾	.04¾	.06

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—	July 2		June 25	
41-43	.03¼		.03⅝	.03¾
42-44	.03⅜		.03¾	.03⅞
NORTH TEXAS—				
41-43	.03¼		.03⅝	.03¾
NORTH LOUISIANA (Ark., N. La. & Miss. del.)				
41-43	.04		.04	
ARKANSAS (Ark., N. La. & Miss. del.)—				
41-43	.04		.04	
PENNSYLVANIA (inland refineries)—				
45	.04⅝		.04¾	
46	.04⅞		.04⅞	
47	.05		.05	
CHICAGO (based on Group 3)—				
41-43	.03⅜	.03½	.03⅝	.03⅞
42-44	.03⅝	.03⅞	.03⅞	.04
CALIFORNIA (Pacific Coast consumption)—				
38-40 high burning test	.03¼	.04¾	.04¼	.05¼
NEW YORK (Bayonne, N. J.)—				
41-43	.04⅞	.05	.05	
GULF COAST (domestic)—				
41-43	.04¼	.04½	.04¼	.04½

Petroleum Coke

(Prices per ton f.o.b. refineries in Chicago area)
(Refineries will absorb freight to 80 cents a ton)

	July 2	June 25
Pile run	6.00	6.00
Direct from still	7.00	7.00
Egg, nut, pea	8.00	8.00
Lump	8.00	8.00

Furnace Oil

OKLAHOMA (Group 3)—	July 2		June 25	
No. 1 prime white, 38-42	.03	.03⅛	.03	.03¼
No. 1 straw, 38-40	.02¾	.03	.02⅞	.03⅛
No. 2 straw, 32-36	.02⅝	.02⅞	.02¾	.03
No. 2 dark, 32-36	.02½	.02¾	.02⅝	.02¾
No. 3, 28-32	.02⅜	.02⅝	.02½	.02¾
No. 3, 15 and above, 28-32	.02¼	.02⅜	.02⅜	.02½
NORTH TEXAS—				
No. 1 prime white, 38-42	.03⅛	.03¼	.03⅛	.03¼
No. 1 straw, 38-40	.03	.03¼	.03	.03¼
NORTH LOUISIANA (Ark., N. La. & Miss. del.)				
No. 2, 32-36	.03	.03⅛	.03⅛	.03¼
ARKANSAS (Ark., N. La. & Miss. del.)—				
No. 2, 32-36	.03½		.03½	
No. 3, 28-32	.03¼		.03¼	
CHICAGO (based on Group 3)—				
No. 1 prime white, 38-40	.03	.03¼	.03¼	.03⅜
No. 1 straw, 38-40	.02⅞	.03⅛	.03⅛	.03¼
No. 2 straw, 32-36	.02¾	.02⅞	.02⅞	.03
No. 2 dark, 32-36	.02⅝	.02¾	.02¾	.02⅞
No. 3 zero to 15, 28-32	.02½	.02⅝	.02½	.02⅝
No. 3, 15 and above, 28-32	.02⅛	.02⅜	.02⅛	.02¼
No. 1	.04⅞	.05	.05	
No. 2	.03⅞	.04	.04	
No. 4	.03½	.03⅝	.03⅝	

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—	July 2		June 25	
U.G.I. gas oil	.02½	.02⅝	.02½	.02⅝
No. 4, 24-28	.87½	.90	.87½	.90
No. 4, 15 and above, 24-28	.75	.80	.75	.80
No. 5	.70	.75	.70	.75
No. 6	.67½	.70	.67½	.70
Below 18 fuel oil, industrial	.65	.67½	.65	.67½
NORTH TEXAS—				
U.G.I. gas oil	.02½	.02⅝	.02½	.02⅝
No. 4, 24-28	.87½	.90	.87½	.90
No. 5	.72½	.75	.72½	.75
No. 6	.67½	.70	.67½	.70
Below 18 fuel oil, industrial	.65	.67½	.65	.67½
NORTH LOUISIANA (Ark., N. La. & Miss. del.)				
U.G.I. gas oil	.02⅞	.03	.02⅞	.03
10-14 fuel oil, industrial	.75	.80	.75	.80
ARKANSAS (Ark., N. La. & Miss. del.)—				
10-14 fuel oil, industrial	.60	.65	.60	.65
CHICAGO (based on Group 3)—				
U.G.I. gas oil	.02⅜	.02½	.02⅜	.02½
No. 4, 24-28	.87½	.90	.87½	.90
No. 4, 15 and above 24-28	.72½	.77½	.72½	.77½
No. 5, 18-22	.67½	.70	.67½	.70
No. 6, 10-16	.57½	.60	.57½	.60

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel in all these areas.

PENNSYLVANIA (inland refineries)—				
36-40	.04⅛	.04¼	.04⅛	.04¼
CALIFORNIA—				
Los Angeles:				
30-34 gas oil, per bbl.	1.05	1.25	1.05	1.25
27 plus Diesel	1.05	1.25	1.05	1.25
27 plus Diesel (bunkers)	1.25	1.30	1.25	1.30
12-16 (bunkers at tidewater)	.87	.95	.87	.95
10-16 (cargo lots)	.75	.92	.75	.92
12-17 (tank cars)	.60	.95	.60	.95
San Joaquin Valley:				
10-18 (tank cars)	.55	.75	.55	.75
San Francisco:				
27 plus Diesel, per bbl.	1.25		1.25	
27 plus Diesel (bunkers)	1.35		1.35	
10-16 (bunkers)	1.00		1.00	
GULF COAST—				
28-30 gas oil	.03½	.03⅝	.03½	.03⅝
28-30 Diesel (bunkers)	1.70		1.70	
Bunker C (bulk cargoes)	.85	.90	.85	.90
Bunker C (bunkers)	.95	1.00	.95	1.00
NEW YORK (Bayonne, N. J.)—				
27 plus, gas oil	.04		.04	.04¼
28-30 Diesel (lighterage 6½ cents per bbl.)	1.65		1.65	
28-30 Diesel (tank cars)	.04	.04¼	.04	.04¼

*Bunker C (to ocean-going ships in N.Y. harbor)	1.15	1.15
Industrial fuel (tk. cars)	.03⅝	.03⅝

*Lighterage charge 5 cents per barrel additional.

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.P.A.)

OKLAHOMA (Group 3)— July 2	June 25
Zero to 10 Cold Test:	
150-3 .10	.10
180-3 .11¼	.11¼
180-4 .10¾	.10¾
200-3 .11¾	.11¾
200-4 .11¼	.11¼
240-3 .13¾	.13¾
240-4 .13¼	.13¼
280-3 .14¾	.14¾
280-4 .14	.14
300-3½ .15¼	.15¼
400-4 .17¼	.17¼
100-2 paraffin oil .05¾	.05¾
15-20 Cold Test:	
200-3 .10¾	.10¾
200-4 .10¼	.10¼
240-3 .12¾	.12¾
240-4 .12¼	.12¼
280-3 .13¾	.13¾
280-4 .13	.13

GULF COAST—				
Pale Oils:				
200-3	.07	.07½	.07	.07½
300-3	.07½	.08	.07½	.08
500-3½	.08½	.09	.08½	.09
750-3½	.09	.09¼	.09	.09¼
1,200-3½	.09½	.09¾	.09½	.09¾
2,000-4	.09¾	.10	.09¾	.10
Red Oil:				
200-5-6	.07	.07¼	.07	.07¼
300-5-6	.07¼	.07½	.07¼	.07½
500-5-6	.08	.08½	.08	.08½
750	.08½	.09	.08½	.09
1,200-5-6	.09¼	.09½	.09¼	.09½

CALIFORNIA (moving to domestic market)—				
Pale Oils:				
100-2½-3	.07½	.07¾	.07½	.07¾
200-2½-3	.08	.08¾	.08	.08¾
300-3-3½	.09	.10	.09	.10
350-3-4	.10½	.11	.10½	.11
400-3-4	.12	.12¼	.12	.12¼
450-3-4	.12½	.12¾	.12½	.12¾
550-3-4	.13	.13½	.13	.13½
600-3-4	.13½	.14	.13½	.14
Red Oils:				
200-4-5	.08½	.09	.08½	.09
300-5-6	.09		.09	
350-5-6	.10	.10¼	.10	.10¼
400-5-6	.10½	.10¾	.10½	.10¾
450-5-6	.11	.11¼	.11	.11¼
500-5-6	.11½	.11¾	.11½	.11¾
600-5-6½	.12	.12¾	.12	.12¾
700-6½ plus	.13	.13¼	.13	.13¼
750-6½ plus	.13½	.13¾	.13½	.13¾
900-6½ plus	.14	.14½	.14	.14½

PENNSYLVANIA—				
150 vis. at 70° F., 3 color, 400-405 flash:				
Zero pour test	.20½	.21	.20½	.21
10 pour test	.19½	.20	.19½	.20
15 pour test	.19	.19½	.19	.19½
25 pour test	.18	.18½	.18	.18½
180 vis., at 70° F., 3 color:				
20 pour test	.21	.21½	.21	.21½
200 vis. at 70° F., 3 color:				
Zero pour test	.25½	.26	.25½	.26
10 pour test	.24½	.25	.24½	.25
15 pour test	.24	.24½	.24	.24½
25 pour test	.23	.23½	.23	.23½

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)— July 2			June 25	
Bright Stocks:				
190-200 D	.18		.18	
150-160 D, 0-10	.15		.15	
150-160 D, 10-25	.14½		.14½	
150-160 25-40	.14		.14	
150-160 E	.14		.14	
Steam refined:				
630 green (treated)	.09½		.09½	
600 light green, untreated	.08½		.08½	
600 dark green, untreated	.05	.06	.05	.06

PENNSYLVANIA—				
Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 510; 540-550 flash):				
10 pour test	.20	.20½	.20	.20½
15 pour test	.19	.19½	.19	.19½
20 pour test	.18	.18½	.18	.18½
25 pour test	.17	.17½	.17	.17½
Steam refined:				
600	.09½	.10	.09½	.10
650	.11	.11½	.11	.11½
600 Pennsylvania flash	.12	.12½	.12	.12½
630 flash	.17	.17½	.17	.17½
600 Warren E filtered	.13	.13½	.13	.13½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)— July 2			June 25	
124-126 (a.m.p.) w.c. scale	.02	.02⅛	.02	.02⅛
PENNSYLVANIA (inland refineries)—				
122-124 (a.m.p.) w.c. scale	.0210	.0215	.0210	.0215
124-126 (a.m.p.) w.c. scale	.0215	.0220	.0215	.0220
NEW YORK—				
Wax in bags fully refined:				
123-125 (a.m.p.) wax	.0420		.0420	
125-127 (a.m.p.) wax	.0430		.0430	
128-130 (a.m.p.) wax	.0455		.0455	
130-132 (a.m.p.) wax	.0470		.0470	
133-135 (a.m.p.) wax	.0530		.0530	
135-137 (a.m.p.) wax	.0555		.0555	
124-126 (a.m.p.) w.c. scale	.0205	.0220	.0205	.0220
124-126 (a.m.p.) y.c. scale	.0200	.0205	.0205	.0215
Petrolatum in barrels, carload lots:				
Dark green	.01⅞		.01⅞	
Amber	.02⅞	.03	.02⅞	.03
Extra amber	.03	.03⅛	.03	.03⅛
Lily white	.06⅝	.06¾	.06⅝	.06¾
Snow white	.07¾	.07⅞	.07¾	.07⅞
Cream	.05⅝	.05¾	.05⅝	.05¾

CHICAGO (f.o.b. switching district)*—				
122-124 (a.s.t.m.) wax	.0440	.0450	.0440	.0450
125-127 (a.s.t.m.) wax	.0465	.0475	.0465	.0475
127-129 (a.s.t.m.) wax	.0480	.0490	.0480	.0490
130-132 (a.s.t.m.) wax	.0540	.0550	.0540	.0550
132-134 (a.s.t.m.) wax	.0565	.0575	.0565	.0575

*Carload lots in burlap bags of approx. 225 lbs. Add 3¢ for a.m.p.

Export Prices

GASOLINE

GULF COAST—	July 2		June 25	
U. S. Motor	.05		.05	
60-62 400	.05	.05⅛	.05	.05⅛
61-63 390	.05	.05⅛	.05	.05⅛
64-66 375	.05¼	.05⅜	.05¼	.05⅜
LOS ANGELES:				
U. S. Motor grades:				
53-55 octane	.04		.04	
55-65 octane	.04	.04¼	.04	.04¼
65-67 octane	.04¼	.04½	.04¼	.04½
67-69 octane	.04½	.04¾	.04½	.04¾
Above 69 octane	.04¾	.05	.04¾	.05
58-60 400 endpoint	.04½	.05	.04½	.05

KEROSENE

GULF COAST—				
41-43 prime white	.03⅞		.03⅞	.04
41-43 water white	.03⅞	.04	.04	.04¼
44 water white	.04¼		.04¼	
LOS ANGELES:				
41-43 water white	.04¼	.04¾	.04½	.05

LUBRICANTS

NEW YORK (f.a.s. in bbls.)—				
Cylinder Stocks:				
600 Warren E	.20		.29	
600 S.R. unfiltered	.16½	.17	.16½	.17
650 S.R. unfiltered	.18		.18	
600 flash S.R.	.19	.19½	.19	.19½
630 flash S.R.	.24	.24½	.24	.24½
Bright Stocks:				
8 color	.24		.24	
6½ plus colors in dilution	.22½		.22½	

NEUTRAL OIL

200-3 color	.28	.30	.28	.30
150-3 color	.23	.25	.23	.25

PARAFFIN WAX

NEW YORK (prices per pound):				
123-125 a.m.p.	.03625		.03625	
125-127 a.m.p.	.0375		.0375	
128-130 a.m.p.	.0400		.0400	
130-132 a.m.p.	.0425	.0450	.0425	.0450
133-135 a.m.p.	.0475		.0475	
135-137 a.m.p.	.05		.05	
Crude scale:				
124-126 w.s.	.0205	.0215	.0205	.0215
124-126 y.s.	.0200	.0210	.0200	.0210

Crude Oil Gravity Table

Gravity—	Oklahoma and Kansas	North Texas, Central Texas and East Central Texas	North Louisiana and Arkansas	Gray County, Texas	Carson, Hutchinson and Moore Counties, Texas	Conroe, Texas	Salt Creek, Wyo.	Gulf Coast, Texas and Louisiana	Gulf Coast, Texas and Louisiana	Cotton Valley, Louisiana
	1	2	3	4	5	6	7	8	9	10
Below 20	....	....	....	....	....	....	....	$.82	$.82	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.78
Below 29	.84	$.79	$.79	....	....	....	$.84	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.05	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.90
Below 35	....	....	....	$.79	$ 69	....	....	....	....	....
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	1.02

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas	$1.00
Corsicana (heavy) (June 17, 1933)*	.80
Other fields	(See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., Empire Oil & Refining Co., and Atlas Pipe Line Co. posted 60 cents per barrel in East Texas but on November 3 resumed its posted price of $1 per barrel, making it retroactive to October 12.

*Magnolia Petroleum Co.

South Central and Southwest Texas

(See note below table)

Darst Creek	$ .87
Mirando (June 29, 1935)	.75
Luling (Sept. 29, 1933)	.75
Pettus	1.05
Salt Flat	.87
Lytton Springs (Sept. 29, 1933)	.95
Duval County (Sept. 29, 1933)	.80
Saxet (June 29, 1935)	.80

Note—Effective on September 29 by Humble Oil & Refining Co. in Darst Creek, Pettus, and Salt Flat. Effective September 29 in Darst Creek by Gulf Pipe Line

(Continued on Page 97)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing firms, include taxes

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon or 3 cents a gallon off retail prices is permitted for purchases running between 4,000 and 10,000 gallons a month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Chicago	15.5	17.5	4.0	9.8
Decatur, Ill.	15.5	16.5	4.0	9.8
E. St. Louis	15.2	17.2	4.0	9.5
Joliet	15.5	17.5	4.0	9.8
Peoria	15.5	17.5	4.0	9.8
Quincy	15.3	17.3	4.0	9.6
Davenport, Ia.	15.5	(†)	4.0	9.8
Des Moines	15.3	(†)	4.0	9.6
Mason City	15.7	(†)	4.0	10.0
Sioux City	15.5	(†)	4.0	9.8
Duluth, Minn.	16.3	18.3	4.0	10.6
Mankato	15.9	17.9	4.0	10.2
Minneapolis	15.9	17.9	4.0	10.2
LaCrosse, Wis.	16.9	18.9	5.0	10.2
Green Bay	17.2	19.2	5.0	10.5
Milwaukee	16.8	18.8	5.0	10.1
Madison	16.9	18.9	5.0	10.2
Detroit, Mich.	16.7	18.7	4.0	9.3
Grand Rapids	16.6	18.6	4.0	10.5
Saginaw	16.8	18.8	4.0	9.3
Evansville, Ind.	17.2	19.2	5.0	10.3
Indianapolis	17.4	19.4	5.0	10.5
South Bend	17.6	19.6	5.0	12.0
Fargo, N. Dak.	16.9	18.9	4.0	11.2
Huron, S. Dak.	17.4	19.4	5.0	10.7
Sioux Falls	16.9	18.9	5.0	10.2
Kan. City, Mo.*	14.9	16.9	4.0	9.2
Springfield	14.6	16.6	4.0	8.9
St. Louis	15.2	17.2	3.5	9.5
St. Joseph*	14.9	16.9	4.0	9.2
Wichita, Kans.	14.4	13.9	4.0	6.3
Bartlesville, Ok.	16.3	18.3	5.0	8.8

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers: Undivided accounts, 1½ cents on premium and regular and 2½ cents on third grade off service station prices; divided accounts one-half cent less than undivided. Where prices are more than 1 cent below normal, the discounts are one-half cent less than above.

Stanolex Furnace Oil in Chicago

Effective June 27, 1935, f.o.b. Chicago tank wagon prices: Range oil, less than 100 gallons, 8.5 cents; 100-149 gallons, 7.5 cents; 150 gallons and more, 7.0 cents. No. 1 (36-40 lt. stw. zero), less than 100 gallons, 8.5 cents; 100-149 gallons, 7.5 cents; 150 gallons or more, 7.0 cents; No. 2 (30-34, stw. zero), same prices and quantities as No. 1; No. 3 (22-26, zero), less than 150 gallons, 7.2 cents; 150 gallons or more, 6.2 cents. No. 4 (12-16 zero), less than 400 gallons, 7.2 cents; 400 gallons or more, 6.2 cents, viscosity of No. 4, 85 and 100° F.; No. 5, less than 400 gallons, 5¾ cents; 400 gallons or more 4¾ cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Atlanta, Ga.	19.0	21.0	7.0	12.0
Augusta	19.0	20.0	7.0	13.0
Macon	19.5	21.0	7.0	13.0
Savannah	18.5	20.5	7.0	14.0
Birm'ham, Ala.	21.0	23.0	8.0	12.0
Mobile	20.0	22.0	8.0	11.0
Montgomery	22.0	24.0	8.0	13.5
Jackson, Miss.	19.0	21.0	7.0	11.0
Vicksburg	18.5	20.0	7.0	12.0
Jacksonville, Fla.	18.5	20.5	8.0	11.5
Miami	18.5	20.5	8.0	13.5
Pensacola	18.5	20.5	8.0	11.5
Tampa	18.5	20.5	8.0	12.5
Lexington, Ky.	19.5	21.5	6.0	10.0
Covington,	18.0	20.0	6.0	11.5
Louisville	18.5	20.5	6.0	10.0
Paducah	18.5	20.5	6.0	10.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1-cent state tax; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline; in Florida an inspection fee of one-eighth cent on kerosene and gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1 cent city tax.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Denver, Colo.	18.0	20.0	5.0	12.0
Pueblo	17.0	19.0	5.0	13.0
Grand Junction	20.5	22.5	5.0	15.0
Casper, Wyo.	18.5	20.5	5.0	11.5
Cheyenne	18.5	20.5	5.0	13.0
Butte, Mont.	21.0	23.0	5.0	17.5
Billings	19.5	21.5	6.0	16.5
Helena	21.5	23.5	6.0	17.5
Great Falls	20.5	22.5	6.0	17.5
Salt Lake, Utah	21.0	23.0	5.0	16 0
Boise, Idaho	22.5	24.5	6.0	18.0
Twin Falls	22.5	24.5	6.5	13.0
Albu'que, N. M.	20.0	22.0	*6.5	13 0

*One-half cent city tax.

Effective March 1, 1934, discount to dealers with or without contract throughout Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Dallas, Tex.	15 0	17.0	5.0	8.0
Fort Worth	15.0	17.0	5.0	8.0
Houston	15.0	17.0	5.0	8.0
San Antonio	15.0	17.0	6.0	8.0
El Paso	17.0	19.0	5.0	10.0
Muskogee, Ok.	16.0	18.0	5.0	8.0
Okla. City	16.0	18.0	5.0	8.0
Tulsa	16.0	18.0	5.0	8.0
Ft. Smith, Ark.	14.5	16 0	5.0	8.5
Little Rock	17.0	20.5	7.5	9.5
Texarkana	15.5	17.5	5.0	8.0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Atl'tic City, N. J.	14.0	17.5	4.0	9.0
Newark	13.3	16.8	4 0	7.5
Annapolis, Md.	14.8	18.3	5.0	10.0
Baltimore	14.3	17.8	5 0	8.5
Cumberland	15.8	19.3	5.0	12.7
Wash'g'n, D. C.	12.3	15 8	3.0	9.5
Danville, Va.	16.6	20.1	6.0	12.9
Norfolk	15.1	18 6	6.0	11.3
Petersburg	15.8	19.3	6.0	11.4
Richmond	15.8	19.3	6.0	11.7
Roanoke	16.8	20.3	6.0	12.9
Charles'n, W. Va.	15 0	18.5	5.0	12.6
Parkersburg	14.3	17.8	5.0	11.2
Wheeling	15.5	19 0	5.0	12.2
Charlotte, N. C.	17.5	20.5	7.0	13.5
Hickory	18.7	22.2	7 0	13.7
Mt. Airy	17.5	20.0	7.0	13.8
Raleigh	18.2	21.7	7 0	16.3
Salisbury	16.0	18.0	7.0	13.6
Charleston, S. C.	16.2	19.7	7 0	11.3
Columbia	18.0	21.5	7.0	13.2
Spartanburg	16.75	19.0	7.0	13.5

Effective October 23, tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount is given.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Ohio points	17.0	19.0	5.0	*12.5

*Includes state tax of 1 cent, effective July 22.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Omaha	17.9	19.9	6.0	10.1
McCook	18.6	20.6	6 0	10.8
Norfolk	18.2	20.2	6.0	10.5
North Platte	18 7	20.7	6.0	10.9
Scottsbluff	19.4	21.4	6.0	11.6

Note: Discounts to dealers; where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank wagon deliveries covered only by Standard Commercial Consumers Contract, effective January 1, 1935.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank wag.†	Post. ret'l.	Inc. tax	tank wag.
San Francisco	16.5	18.5	4.0	11.5
Los Angeles	12.5	14.5	4.0	10.5
Fresno, Calif.	17.0	19.0	4.0	12.0
Phoenix, Ariz.	20.0	22.0	6.0	‡18.0
Reno, Nev.	19.0	21.0	5.0	13.0
Portland, Ore.	19.0	21.0	6.0	13.5
Seattle, Wash.	19.0	21.0	6.0	13.5
Tacoma	19.0	21.0	6.0	13.5
Spokane	22.0	24.0	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

‡Includes 5-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Philadelphia, Pa.	15 0	17.0	4.0	9.0
Pittsburgh	16.0	18.0	4.0	10.0
Allentown	15.5	17.5	4.0	10.0
Erie	15.0	17.0	4.0	9.0
Scranton	16.0	18.0	4.0	10.0
Altoona	16.0	18.0	4.0	10.0
Dover, Del.	15.5	17.5	4.0	10.0
Wilmington	15.5	16.5	4.0	9.0
Springf'd, Mass.	13 2	16.7	4.0	7.5
Worcester	13.3	16.8	4.0	7.5
Hartford, Conn.	12.3	15.8	3.0	7.5
New Haven	12.2	15.7	3.0	7.5
Providence, R. I.	12.0	15.5	3.0	7 0

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
N. Orleans, La.	17 5	21.0	‡8.0	†13.5
Baton Rouge	16.5	20.0	††7.0	12.5
Alexandria	17 5	21.0	††8.0	10.5
Lafayette	18.0	21.5	‡*8.0	12.5
Lake Charles	18.0	21 5	††8.0	12.5
Shreveport	16.0	19.5	††7.0	9.0
Knoxville, Tenn.	19.0	21 5	8.0	14.0
Memphis	18.0	21.5	8.0	11.0
Chattanooga	18 25	20.5	8.0	11.5
Nashville	18.0	20.5	8.0	13.5
Bristol	17 85	20.6	8.0	14.5

*Includes city tax of 1 cent.

‡Includes 2-cent parish tax. †Includes 1-cent parish tax.

Effective October 23, tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM CO., INC.

	Gasoline			Kero.
	Post. deal.	Serv. sta.	Inc. tax	tank wag.
Albany, N. Y.	14.2	17.7	5.0	7.5
*Met. New York	14.55	18.3	5.0	7.25
*Br'kl'n, Queens	14.3	17.8	5.0	7.25
Buffalo	14.0	17.0	5.0	8.0
Rochester	15 0	18.5	5.0	8.5
Syracuse	14.5	18.0	5.0	8.5
Boston, Mass.	12.0	14 5	4.0	7 0
Portland, Me.	14.5	18.0	5.0	7.5
Manch'ter, N. H.	14.8	18.3	5.0	8 25
Burlington, Vt.	16.2	19.7	5.0	8.5

*Includes 2 per cent city sales tax.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	14.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago, March 12, 1935. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Canada*

Imperial 3-Star Gasoline
IMPERIAL OIL, LTD.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Hamilton, Ont.	22.0	25.0	6.0	17.5
Toronto, Ont.	22.0	25.0	6.0	17.5
Brandon, Man.	20.3	23.3	7.0	21.1
Winnipeg, Man.	28.7	31.7	7.0	20.2
Regina, Sask.	30.0	33.0	7.0	21.5
Saskatoon, Sask.	32.8	35.8	7.0	24.3
Edmonton, Alta.	32.2	35.2	7.0	23.7
Calgary, Alta.	29.5	32.5	7.0	21.0
Vancouver, B. C.	27.0	30.0	7.0	24.0
Montreal, Que.	18.5	20.5	6.0	17.0
St. John, N. B.	26.0	36.0	8.0	19.5
Halifax, N. S.	26.0	30.0	8.0	19.5

*Imperial gallon used in Canada.

Maritime provinces, all dealers 4 cents off service station price. Montreal, all dealers 2 cents off service station price. All other provinces open dealers 3 cents per gallon off service station price, 1 cent additional to 100 per cent accounts.

Retail Price Changes

Regular-grade gasoline, kerosene

Standard Oil Co. of Louisiana, June 20, advanced tank wagon gasoline 2 cents and station gasoline 3.5 cents in New Orleans.

Standard Oil Co. of Kentucky, June 21, reduced tank wagon and station gasoline 1.5 cents in Pensacola.

Imperial Oil Co., Ltd., June 22, reduced tank wagon gasoline 5 cents and station gasoline 6 cents in Montreal; June 26, reduced tank wagon and station gasoline .5 cent further.

Standard Oil Co. of California, June 27, advanced tank wagon and station gasoline 1 cent in Reno.

Socony-Vacuum Oil Co., Inc., June 24, reduced tank wagon gasoline .45 cent and station gasoline .5 cent in Buffalo. June 25, advanced tank wagon gasoline 1 cent and station gasoline 2 cents in Boston.

Standard Oil Co. of Indiana, June 22, reduced station gasoline 1 cent in Decatur.

Continental Oil Co., June 20, reduced tank wagon and station gasoline 1 cent in Billings.

Crude Oil Price Changes

Because of the light summer demand for the heavy oils of the Refugio, Mirando and Saxet Fields in South and Southwest Texas, Humble Oil & Refining Co. lowered the price 5 cents per barrel for the crudes in each of those fields. The new prices effective June 29 are, Refugio heavy oil, 80 cents; Mirando, 75 cents, and Saxet 80 cents. The Humble company is overstocked with the grade of oils named and cannot expect an improved market until the cold weather sets in.

Corning, Ohio, crude was reduced 5 cents by the South Penn Oil Co., but the date effective was not given. The new price is $1.32 per barrel.

Effective July 1, Texas Co. posted same price as Humble for Mirando, Saxet and Refugio crude, and Atlantic Oil Producing Co. met cut in Refugio.

North Star Enters Ontario

North Star Oil, Ltd., of Winnipeg has been granted letters patent by the Ontario government to acquire land in Ontario to the value of $100,000 for its actual use and occupation. The North Star company is planning to distribute gasoline and petroleum products in Ontario, operations at first being confined to the northwest portion of the province.

Gasoline Market Values Steadied in Chicago District After Flurry

By SPECIAL CORRESPONDENT

CHICAGO, July 1.—After reaching a point dangerously near what appeared to be a real decline, gasoline market values here steadied and showed a somewhat improved tone.

Watching Code

The marketing trade is paying quite a bit of attention to the provisions of the forthcoming code of trade practices. A good many suggestions have been discussed by jobbers and have been forwarded or may be brought forth in the ensuing discussions.

It now develops that the throwing out of the NIRA code has had little effect on the general tenor of the trade's activities—at least it appears there have been no harmful results that are taking definite form. Some observers are of the opinion that the invalidation of the law has done much to relieve the tension and may make infraction of rules less attractive. At any rate, unethical trade practices seem little more widespread than two months ago. One report, however, is that there is a tendency to give equipment on a somewhat more liberal basis.

Kerosene

Weakness in the tank car market has been mostly in kerosene, which is now off about one-half cent from the recent highs. One reason for this is that much field work which was contemplated has not been done at all. Some corn never has been planted. In some wheat harvesting sections of the southwest fields have been so muddy that it has been necessary to put runners on binders, getting power hook-up from the tractors. Stocks of kerosene have piled up on those refiners poorly equipped to carry them. Consequently offerings have been widespread.

Furnace Oils

A similar condition exists in furnace oils. While this is not the active season and while no real strength is expected, still the weakness has been far-reaching. Some distributors are now getting to a point where they are considering putting some material in storage, if it appears that the market is ready to steady at these levels, it is thought. Chicago tank wagon is off three-tenths cent.

Industrial Oils

The heavy industry oils are still beclouded. The buying is spotty and not extensive in any case. Prices are managing to hold their own fairly well. Industrial gas oil holds up well.

Lubricants

Lubricants are mixed. The reduction in eastern crude had a somewhat unsettling effect. Buying has been not extremely active on most grades for some time. Plenty of material appears to be offered in this market.

Wax

Wax is slow. There is little buying of an impressive nature and the present prices appear to be holding and little more. Stocks continue rather heavy.

Naphthas

Solvents and naphthas still have a fairly firm and healthy tone. There is no change in price, so far as the run of sellers are concerned.

Coke

Petroleum coke marks time, and the tone is moderately firm on a price structure that is about unchanged.

Crude Oil Prices

(Continued from Page 95)

Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Effective September 20 in Salt Flat by Shell Petroleum Corp. Mirando and Saxet prices posted by Humble Oil & Refining Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 29, 1933).$ .70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933) ..... .75
Pecos County, Yates shallow Pool (Sept. 29, 1933)* ..... .65
Jones and Fisher Counties*.....
.....(See gravity table)

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.
*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specification discontinued by leading buyers.
.....(See gravity table)
Tomball (see note)* $1.10
Livingston (Sept. 29, 1933)† 1.00
Cleveland (Jan. 11, 1934) 1.00
Greta (Sept. 29, 1933) ..... .85
Refugio, light.....(See gravity table)
Refugio, heavy (June 29, 1935)‡ .... .80
Markham and High Island .....
.....(See Gulf Coast gravity table)
Conroe.....(See Conroe gravity table)
Bosco, La. (Jan. 18, 1935)§.....$ .90

Note—Tomball, effective September 29, by Humble Oil & Refining Co. and October 2 by Magnolia Petroleum Co., and November 10 by Stanolind Crude Oil Purchasing Co.
*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy by Humble Oil & Refining Co. Cleveland (Liberty County) posted by Magnolia Petroleum Co. §Bosco posted by Pure Oil Co.

Rocky Mountain States

Ilea, light (Sept. 29, 1933) .....$ .96
Ilea, heavy (Sept. 29, 1933) ..... .90
Florence, Colo. (June 17, 1933) ..... .80
Fort Collins and Wellington, Colo. (June 17).....(See Salt Creek prices)
Big Muddy (Sept. 29, 1933) $1.01
Frannie, light (May 1, 1934) ..... .70
Frannie, heavy (Sept. 29, 1933) ..... .62
Salt Creek and LaBarge (Sept. 29, 1933) .....
(See Stanolind Mid-Continent price schedule)
Grass Creek, light (Sept. 29, 1933)...$1.18
Grass Creek, heavy (Sept. 29, 1933)... .62
Elk Basin (Sept. 29, 1933) 1.18
Rock Creek (Sept. 29, 1933) 1.02
Lance Creek (Dec. 16, 1932) ..... .92
Hudson (June 2, 1931) ..... .65
Lost Soldier (Sept. 30, 1933) ..... .88
Hamilton Dome, all grades (Feb. 16, 1935) ..... .67
Torchlight (Sept. 29, 1933) 1.18
Greybull (Sept. 29, 1933) 1.18
Pondera (Sept. 29, 1933) 1.35
Sunburst (Sept. 29, 1933) 1.35
Cat Creek, Montana 1.07
Hogback (Sept. 29, 1933) 1.11
Lea County, N. Mex. (Sept. 29, 1933).. .75
Maljamar (Sept. 29, 1933) ..... .70
Artesia-Jackson (Dec. 1, 1933)* ..... .75

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Ilea by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, 1933, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro. Hamilton Dome, Wyo., by Stanolind Oil & Gas Co. Pondera, Mont., by Ohio Oil Co. (Stanolind Oil & Gas Co., effective January 1, 1935, posted $1 per barrel in Pondera).
*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades) .....$ .70
Tullos, Urania, La. (Jan. 13, 1934) ... .87
Nevada, Ark. (Sept. 29, 1933) ..... .60
East El Dorado (Sept. 29, 1933) ..... .70
Converse, La. (Mar. 17, 1934) 1.02
Elm Grove, La. (Sept. 29, 1933) ..... .75
Holly, La. (Nov. 17, 1934) 1.02
Pleasant Hill, La. (Mar. 17, 1934) 1.02
Zwolle, La. (Mar. 17, 1934) 1.02
Champagnolle, Ark. (Mar. 17, 1934) .. .81
Lisbon, Ark (Mar. 17, 1934) 1.02
Stephens, Ark. (Sept. 29, 1933) ..... .70
Urbana, Ark. (Mar. 17, 1934) ..... .60
Other fields.....(See gravity table)

Note—Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co.; Nevada by Standard Oil Co. of Louisiana. Urbana posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co. Converse, Holly, Zwolle and Urbana by Standard Oil Co. of Louisiana; Elm Grove by Simmons Oil & Refining Co.; Pleasant Hill by Standard Oil Co. and Magnolia Petroleum Co.; Champagnolle by Standard Oil Co. and Lion Oil & Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective May 16, 1935)
Bradford, Pa. $2.20
Allegany, N. Y. 2.20
SOUTH PENN OIL CO.
(Effective May 16, 1935)
Pennsylvania Grade Oil in National Transit Lines (Bradford Field).....$2.20
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.92
Pennsylvania Grade Oil in Eureka Pipe Line lines 1.87
Pennsylvania Grade Oil in Buckeye Pipe Line lines 1.77
Corning Grade Oil in Buckeye Pipe Line Co.'s lines 1.83
PENNZOIL CO.
(Effective May 16, 1935)
Pennsylvania Grade Oil in National Transit Lines:
Group A $2.17
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B 2.16
Includes Titusville district.
Group C 2.15
Includes Turkey and Tidioute districts.
Group D 2.14
Includes Bear Creek and Perkey districts.
Group E 2.11
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacey and Kinzua districts.
Price depends on length of pipe line haul to plant at Oil City.
PURE OIL CO
(Effective May 16, 1935)
Cabin Creek, W. Va. $1.87
Bradford Hollow, W. Va. 1.87
Kelly Creek, W. Va. 1.87

Middle Western States

OHIO OIL CO
Lima (Feb. 1, 1935) $1.15
Illinois (Jan. 5, 1934) 1.13
Princeton, Ind. (Jan. 5, 1934) 1.13
Plymouth .....Shut in
Midland, Mich. (Sept. 30, 1933)* $1.02
West Branch, Mich. ..... .86
Oceana, Mich (Oct. 5, 1933) ..... .90
Somerset, Ky. (May 20, 1935) 1.13
Western Kentucky (May 22, 1935) 1.13

*Posted by Pure Oil Co. and Simrall Pipe Line Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted prices. West Branch, Mich., posted by Simrall Pipe Line Co. Somerset, Ky., crude purchased by Ashland Refining Co. Ashland, Ky., and posted prices includes premium. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Canada

Ontario (Sept. 9, 1933):
Petrolia* $2.10
Oil Springs 2.17
Turner Valley (May 21, 1934):†
Clear naphtha 2.55
Discolored naphtha 2.37
Crude oil, 50 gravity 2.19
Crude oil, 45 to 49.9 ..... 2.07
Crude oil, 40 to 44.9 ..... 1.50

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco* .....$.955

*F.o.b. ship, based on May transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA

For current purchases of crude oil at the well (unless otherwise specified) (All gravities above those quoted take highest price offered in that field)
(Effective September 6, 1933)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs La Habra-Coyote		Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	$.65	$.65	$.65	$.65	....	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.73	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.72	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.79	....	.75	.74	.74	.65	....	.71	.61	.61	.69	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	....	.83	.86	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.83	.89	.93	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.02	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.06
30-30.9	1.09	1.10	1.12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.16	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.22	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.24	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Market Record of Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City. Members New York Stock Exchange and New York Curb Exchange

1935 High	1935 Low	Week ended June 29 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1934	1934 High	1934 Low	1933 High	1933 Low
70¾	48½	5,200	68¾	64	65	Amerada Corp.	788,675	N.P.	50cQ	4-30-35	$2.00	55⅝	39	47⅝	18½
28	21⅜	9,400	26⅝	25¾	26⅛	Atlantic Refining	2,664,902	$25	25cQ	6-15-35	1.00	35¼	21½	32½	12⅜
10⅜	5⅞	9,800	8¾	8	8½	Barnsdall Corp. A	2,248,795	$5	....¶	6-30-35	....	10	5⅞	11	3
7¾	3⅜	35,500	8	7	7¼	Columbia Gas & Elec.	11,610,036	N.P.	....	5-15-34	‡ .25	19¼	6⅝	28⅛	9
10½	6½	21,300	9	8¼	8¼	Consolidated Oil Corp.	13,996,072	N.P.	14c	10-31-34	.42	14¼	7¼	15¾	5
23	15⅛	20,400	21⅞	20⅝	21	Continental Oil of Delaware	4,682,722	$5	12½c	4-30 35	.50	22¾	15¾	19⅝	4⅞
19⅛	11¾	10,100	19	16½	19	General Asphalt	387,140	$10	....	6-15-32	....	23½	12	27	4⅜
3⅜	1½	1,300	2½	2⅜	2⅜	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	5⅝	2½	7⅜	1⅞
1⅞	½	3,900	½	½	½	Louisiana Oil Refining	1,302,158	N.P.	....	.....	....	3⅜	⅜	4	⅝
13⅞	9½	4,500	12⅝	11¾	11¾	Mid-Continent Petroleum	1,857,912	$10	15c	5-15-35	.50	14¾	9⅛	16	3⅜
19	9	400	15½	15¼	15½	National Supply of Delaware	382,591	$25	....	5-15-31	....	21⅛	10	28⅝	4
14⅛	9¼	8,000	12⅜	11½	11½	Ohio Oil Co.	6,563,107	N.P.	15c	6-15-35	.45	15⅞	8½	17⅝	4⅜
9½	7	600	7⅝	7½	7½	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.40	9⅜	5½	9½	3
1⅜	⅝	500	⅝	½	½	Panhandle P. & R.	198,770	N.P.	....	.....	....	2½	⅝	4¼	⅜
23	13¾	16,000	22⅝	21	21¼	Phillips Petroleum	4,154,687	N.P.	25c	6-1-35	1.00	20¾	13⅜	18¾	4⅜
11⅝	6½	4,500	9¼	8¾	9	Plymouth Oil Co.	1,014,082	$5	25c	3-30-35	75c & 4% Stk.	16¾	7¼	17⅝	6¾
9¼	5⅞	23,100	9⅜	8⅞	9	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	14⅞	6⅛	15⅜	2½
43¼	29½	1,100	42	41⅝	42	Royal Dutch N. Y. shares	432,224	$14	$1.35	7-31-34	1.35	39⅛	28⅝	39¾	17⅜
35⅞	20¾	4,400	31	29	30¼	Seaboard Oil of Delaware	1,204,460	N.P.	15cQ†	6-15-35	1.00	38⅜	20¾	43⅜	15
11½	5½	8,700	10½	10	10¼	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	11½	6	11⅝	4
97	63⅛	600	91½	89½	90¼	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	89	57	61	28½
18¾	13½	9,100	15⅞	15⅛	15⅛	Simms Petroleum	461,698	$10	50c	2-1-35	.55	17⅛	7¼	12⅜	4⅞
11⅜	6½	1,300	10¼	10	10	Skelly Oil	1,008,514	$25	....	12-15-30	....	11½	6	9⅞	3
15¾	11	55,700	13⅝	12⅝	13	Socony-Vacuum	31,154,379	$25	15cQ	3-15-35	.60	19⅞	12½	17	6
38⅞	27¾	18,100	36¾	33¼	34	Standard Oil of California	13,102,900	N.P.	25c	6-15-35	1.00	42⅞	26½	45	19½
27¼	23	10,000	25¾	25⅜	25½	Standard Oil (Indiana)	15,215,677	$25	25cQ	3-15-35	1.00	32¾	23¼	34	17
32	26½	No sales ..	..	..	..	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	2.00	41	26	39⅞	12¾
50½	35¾	49,900	49⅛	45⅝	46⅜	Standard Oil of New Jersey	25,856,081	$25	50c8A‖	6-15-35	1.25	50⅛	39¼	47½	22¾
75½	60½	1,100	75	70	70	Sun Oil	1,733,013	N.P.	25cQ	6-15-35	$1 & 9% Stk.	74¼	51½	59	35
23¾	16½	23,100	21⅜	19⅞	20	Texas Corp.	9,486,417	$25	25cQ	7-1-35	1.00	29⅜	19⅝	30⅛	10¾
5⅜	3¼	24,300	5⅜	4½	5	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	....	6½	2½	6½	1⅜
12	7⅝	28,200	10⅝	10	10⅜	Tide Water Associated	5,631,341	N.P.	....	2-16-31	....	14⅜	8	11¾	3½
102½	84	800	99	98	98¾	Tide Water Associated pfd.	666,524	$100	$3‖	7-1-35	$8.50	87	64½	65¼	23½
20⅛	14¾	6,500	18¼	17½	17⅞	Union Oil of California	4,386,070	$25	25cQ	5-10-35	1.00	20½	11½	23⅜	8½
26¼	20⅞	800	24¼	24	24	Union Tank Car Co.	1,200,000	N.P.	30cQ	6-1-35	1.20	25¾	15⅝	22¾	10½
2⅝	1	700	1¾	1¾	1¾	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¾	2	5½	2

*Ex-dividend. †Plus extras. ‡Payable in preferred stock. §On account of accumulated and current dividends. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Dividend of one-half share Barnsdall Refining Corp.

Market Record of Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City. Members New York Stock Exchange and New York Curb Exchange

1935 High	1935 Low	Week ended June 29 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1934	1934 High	1934 Low	1933 High	1933 Low
39	30½	100	39½	39½	39½	Buckeye Pipe Line Co.	200,000	$50	75cQ	6-15-35	$3.00	38	26	39¾	25
4¼	1⅝	1,500	2⅜	2¼	2¼	Carib Syndicate	799,020	25c	....	.....	....	5½	1½	7⅜	⅛
157	115	100	128	128	128	Chesebrough Mfg. Co.	120,000	$25	$1Q†	6-28-35	11.50	150	116	129	71
2¼	⅜	14,900	1⅞	1½	1⅝	Cities Service	37,804,394	N.P.	....	6-1-32	....	4¼	1¼	6¼	1½
1¼	½	500	⅝	½	½	Colon Oil	2,200,000	N.P.	....	.....	....	3¼	½	4	⅛
⅞	¼	2,100	½	¼	⅜	Cosden Oil	399,687	$1	....	.....	....	3⅞	½	3⅞	1⅜
18⅞	10	13,500	18	16⅛	16⅞	Creole Petroleum	6,974,356	$5	....	.....	....	14⅜	9⅝	12	4⅜
6⅝	4¼	200	6¼	6⅛	6¼	Darby Petroleum	509,696	$5	25c	7-15-35	.50	7½	4⅛	8	2⅛
2	¾	400	1½	1½	1½	Derby Oil & Refining	263,162	N.P.	....	.....	....	2¼	1	2¾	⅞
38	34	No sales ..	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	5-1-35	4.00	37	30	41¾	20
74¾	50¼	6,600	66½	62¾	64½	Gulf Oil Corp.	4,538,101	$25	....	10-1-31	....	76¾	49¾	62	24
64	44	7,800	62	56½	57½	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	7-1-35	$1.25	49½	33¼	105½	40
22½	15⅜	12,800	20	19	19⅜	Imperial Oil of Canada	26,919,871	N.P.	25c8A†‡	6-1-35	.92½	17⅞	12⅝	15⅞	6½
6	3⅝	500	5⅜	5¼	5¼	Indiana Pipe Line	300,000	$10	15c8A	5-15-35	.35	6⅞	3⅝	8	3⅛
39¾	28	15,200	35⅞	34⅛	34½	International Petroleum	14,247,088	N.P.	75c8A†‡	6-1-35	2.28	33⅜	19⅝	23½	8⅝
9½	4⅜	14,200	8	7¼	8	Louisiana Land & Exp.	3,000,000	N.P.	....	.....	....	5	2⅛	2¼	⅛
6⅜	3½	200	5⅜	5⅜	5⅜	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	6	3⅜	9½	1⅛
6¼	4½	1,200	6	5¼	5⅜	Lone Star Gas	5,382,723	N.P.	15c	2-15-35	‖ .16	8⅜	4¼	11⅞	4⅜
5½	4⅛	1,600	5¼	4⅞	4⅞	Mountain Producers	1,682,182	$10	15cQ	7-1-35	.60	5½	4	6½	2½
18⅛	11¾	2,000	17¾	17⅛	17½	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-35	1.00	18⅛	13⅛	20	10
9¼	6¾	900	9¼	8⅝	8⅝	National Transit	500,000	$12.50	40c8A	6-15-35	.75	9½	7	10	5½
2⅝	2	600	2¼	2¼	2¼	New Bradford Oil	1,445,202	$5	10c8A	3-15-35	.20	2½	1¾	2⅛	⅓
2⅛	1	100	1⅝	1⅝	1⅝	New Mexico and Arizona	1,000,000	$1	....	.....	....	2¾	1	1⅞	½
3¾	3	No sales ..	..	..	..	New York Transit	100,000	$5	15c8A	4-15-35	.30	4¾	3	4⅞	3
7	5¼	400	6¼	6	6	Northern Pipe Line	120,000	$10	25c8A	7-1-35	.50	7	4⅝	6⅛	4¼
2⅛	1¼	8,500	2	1⅜	1⅞	Pantepec Oil	1,608,700	N.P.	....	.....	....	2⅝	⅞	3¾	½
1½	⅝	100	1	1	1	Ryan Consolidated	296,931	N.P.	....	.....	....	3⅜	⅞	4¼	⅝
7½	5½	1,800	7	6⅞	6⅞	Salt Creek Producers	1,496,859	$10	20cQ	5-1-35	.80	7⅞	5½	9¼	3½
28⅜	21⅝	800	25½	24¼	24¼	South Penn Oil	1,200,000	$25	30cQ	6-20-35	1.20	26½	17½	22⅛	11
4⅜	3⅞	300	4⅜	4¼	4¼	Southern Pipe Line	100,000	$10	15c8A	3-1-25	.25	5½	3½	6	2⅛
52½	45¼	50	47½	47½	47½	Southwest Penna. Pipe Lines	35,000	$50	$1Q	7-1-35	5.00	47	41	43	24½
21⅝	18	4,700	21½	21⅜	21⅜	Standard Oil of Kentucky	2,604,790	$10	25cQ†	3-15-35	1.50	18⅜	14⅝	19¼	8⅝
12	7⅜	200	10½	10	10	Standard Oil of Nebraska	188,403	$25	....	6-20-34	.50	16⅞	8¼	20½	11
19⅜	11½	700	16½	16⅛	16¼	Standard Oil of Ohio	753,740	$25	....	1-3-33	....	28½	12¼	41	15½
1¼	⅞	5,200	1¼	1⅛	1¼	Sunray Oil	1,610,810	$1	....	4-15-31	....	2	1⅛	1½	¼
6⅞	5	700	5½	5⅛	5⅜	Texon Oil & Land	336,028	N.P.	15cQ	6-29-35	.90	11	4⅜	13¾	6¼

*Ex-dividend. †Plus extras. ‡Payable in Canadian funds. §Includes 50 cents on old $25 par value stock. ‖Payable in preferred stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Landis Adds Model O Grinder for Chasers to Its Line

Landis Machine Co., Waynesboro, Pa., has added to its line of machines and fixtures for grinding Landis die head chasers the Model O chaser grinder, suitable for grinding all Landis die-head chasers up to 1¼ inches in width.

The Model O is a medium-sized grinder of the bench type. It can also be furnished with a

pedestal for floor use if desired. The grinder is equipped with a one-third horsepower, A.C. single-phase, 120-volt, 60-cycle fully enclosed motor, suitable for plugging into a light socket providing the proper current. The motor and grinding wheel spindles are mounted in ball bearings. The motor has a half-hour continuous duty rating, ample for the ordinary requirements of grinding chasers.

This machine is fitted with two grinding wheels, one a 6x2 inch cup-shaped wheel and the other a 7x½ inch straight wheel, of suitable grade and grain for grinding high-speed steel chasers.

The right-hand side of the machine is fitted with a fixture for grinding the rake and lead angles. Means are provided for swiveling the fixture to obtain the desired angles. Graduations are provided to facilitate the obtaining of these angles. The fixture is mounted on a rotatable spindle which permits oscillating the chaser against the face of the cup wheel for the grinding operation. A cross feed is obtainable through a hand knob on the left-hand side of the machine-bed. The spindle bearing of the fixture is fully enclosed to protect it from grinding dirt. The chaser is held in the vise by its dovetailed bottom and securely tightened by a hand knob.

An adjustable fixture is also attached to the left-hand side of the machine for grinding the "lip" in the rake angle. A grinder is attached to the table of this fixture to control the lead angle and thus insure uniform grinding.

The Model O grinder provides for all the forms of grinding Landis chasers as recommended in the Landis handbook.

With the Supply Companies

Harnischfeger Corp., Milwaukee, Wis., has made Charles W. Daniels general sales manager for the entire line of P&H contractors' equipment, industrial products, P&H-Hansen arc welders, hoists, etc.

A. J. Wadhams, manager development and research for International Nickel Co., Inc., has announced the addition of Harold L. Geiger to the field staff of that department.

D. R. Davis, with headquarters in Wichita Falls, Tex., has been appointed to represent Lunkenheimer Co., Cincinnati, Ohio, in parts of Texas and Oklahoma. He succeeds E. R. Tieberman, who is transferred to Tulsa, from which point he will cover most of Oklahoma and parts of Kansas. Joseph Waldeck will act in a supervisory capacity over both territories.

W-K-M Co., Houston, Tex., has been appointed exclusive distributor in the Gulf Coast and Mid-Continent territory for Everlasting valves, which this sales organization will sell and service, with stocks continuing to be handled through supply stores.

General Refractories Co., Philadelphia, Pa., has appointed Broadway Manufacturing Co., Knoxville, Tenn., as dealer agent.

Oil Tool Company Is Organized

Ed Lenzner, president and general manager of the Oil Equipment and Engineering Exposition, has organized the U. S. Oil Tool Corp., for the manufacture and sale of oil industry specialty equipment. Sales headquarters have been opened in the Petroleum Building, Houston, Tex., and plans for a manufacturing plant in Houston are under way. The company has acquired all manufacturing and sales rights, both in the United States and foreign fields, on the Alphonso mechanical boiler cleaner for the elimination and prevention of scale, corrosion, mud and foam from boilers without shutting down operations. Additional patents have been acquired and other products are to be added to the company's line. F. J. Maley is sales manager.

Men Widely Known in the Equipment Field

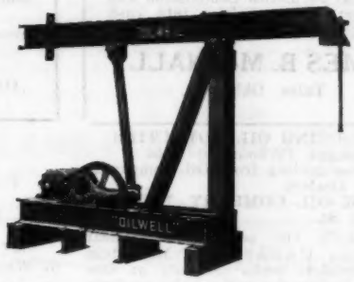
Jack Lyall, recently appointed field representative of the McCord Radiator & Manufacturing Co., in the Mid-Continent territory, has been with that

JACK LYALL

organization for seven years in the general sales, lubricator, engineering and production departments. This background will be of value in his work as technical sales and service engineer. His headquarters will be in Tulsa.

New Type of Pumping Unit Is Introduced by "Oilwell"

Economical and dependable operation and compact and sturdy construction are mentioned as features of the new "Oilwell" No. 5 pumping units, recently added to the Oil Well Supply Co.'s line of structural-steel floor-type pumping units. These new machines are intended for individual well pumping in shallow fields where maximum



polished-rod loads do not exceed 5,000 pounds (A. P.I. rating). They are of arc-welded structural-steel construction and are made in two types, one with V-belt and chain drive, the other with gear-motor and chain drive.

The same structural-steel frame, walking-beam, hanger, pitman, crank and bearings are used on both types. The frame is self-supporting and consists of a sturdy structural-steel samson post (A-frame) mounted on three channel sections placed lengthwise on four CB-sections, forming a base well suited for derrick-floor installations. The upper pitman bearing, the saddle bearings, and the polished-rod hanger are located in a "three-in-line" arrangement, which assures minimum polished-rod deflection and makes it possible to run the unit either clockwise or counter-clockwise.

The unit equipped with V-belt and chain drive is driven by a small motor or engine mounted on sliding rails on the bed-plate of the structural-steel frame. A V-belt drive is used from the prime mover to the intermediate shaft, and a single roller chain is used from the intermediate shaft to the crankshaft. The position of the intermediate shaft can be adjusted easily by means of set screws in order to keep the chain tight when wear takes place over a period of time. This eliminates the danger of chain breakage resulting from slack in the chain drive. Sheet-metal guards, open at the bottom, are provided for both the V-belts and the chain.

The unit equipped with gear-motor and chain drive is driven by a small gear-motor mounted on an adjustable bed-plate so that slack in the chain drive from the gear-motor to the crankshaft can be taken up easily. A sheet-metal guard, open at the bottom, is provided for the chain. A wide range of pumping speeds can be obtained.

The picture shows a No. 5 pumping unit with gear-motor and chain drive.

TO MAKE WIGGINS ROOFS

Compagnia Tecnica Industrie Petroli S.A.I. of Milan, Italy, has entered into a license agreement with the Chicago Bridge & Iron Works of Chicago, covering the sale, manufacture and erection of Wiggins floating roofs and Wiggins breather roofs for oil storage tanks in the kingdom of Italy. Other firms licensed to manufacture Wiggins roofs in foreign countries are Horton Steel Works, Ltd., Fort Erie, Ontario; Motherwell Bridge & Engineering Co., Ltd., Motherwell, Scotland; Whessoe Foundry & Engineering Co., Ltd., Darlington, England; Worms & Cie, LeTrait, France; and Asano Bussan Co., Ltd., Tokyo, Japan.

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I have owned and sold extensive oil royalties and leases in Texas for four years and so far have not owned or sold any leases or royalties that have not produced.

I own and will sell at this time heavily productive royalties in Van and East Texas ranging in price from $400.00 an acre up. I have one forty acre lease in Upshur County, East Texas Field on a three hundred acre farm. Three weeks ago they brought in a good well at the other end of this farm. I will sell this for $200.00 an acre or will entertain a drilling proposition.

I sold a similar forty acres sixty days ago in Upshur County, Texas, and they have since brought in a well on this forty acres making one hundred and forty barrels an hour through the choke. They will drill eight wells on the acreage and its recovery is estimated at 600,000 barrels of oil. When I sold it it did not look any better than the forty acres that I am offering at this time for $200.00 an acre.

I own and will sell 1/8 of the 1/8 royalty on a 640 acre lease for $4.00 an acre on the edge of Wheeler County over the line in Collingsworth County. The Smith Brothers of McLean, Texas, are now drilling a well on this section. I am informed that the Smith Brothers have drilled a number of wells in this great field without having a single dry hole to their discredit.

I see they brought in a well in Wheeler County about ten days ago making approximately 5,000 barrels.

I own several hundred acres of royalty in Marion County, Mississippi, participating in the rentals under the Sun and Texas Companies. This royalty pays 9⅜% in advance from the rentals. I will sell for $3.00 an acre and pass on to the buyer the rentals which I have already collected for this year. Virtually all of the major companies are making a play in Mississippi, and there are several wells being drilled in the section where my royalty is located.

All of these offerings are subject to prior sale and change of price. Will furnish complete data, geological reports and Governmental reports on any of them inquired for.

I buy royalties and leases in Texas and Oklahoma in any amounts.

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and for more than eleven years its President and Treasurer
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Tulsa, Oklahoma.

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Producing and non-producing royalties in salt dome fields of Texas and La.
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412 Esperson Bldg., Preston 4420.
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105 West Adams Street
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Dealers in Oil Royalties since 1918.

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Telephone Trinity 7391

SELECTED producing and drilling royalties, California field. Affiliated Oil Industries, 816 W. 5th St., Los Angeles, California.

Royalties—Production

Registered Royalties and Non-Registered Royalties available to Dealers only.

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First National Building,
Oklahoma City, Okla.

BETTER CLASS
MONTHLY PAYING ROYALTIES
Quoted Dealers Exclusively.
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PRODUCING OIL ROYALTY paying monthly income in half acres and upwards at reasonable prices. Federal listed. S. J. Jewell, P. O. Box 35. Tulsa, Okla.

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DEALERS IN ODD LOTS
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PRODUCING OIL ROYALTIES
We Buy and Sell.
E. T. MARION REAL ESTATE CO.
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Dallas, Texas.

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Dealers Only
Signal Hill—Huntington Beach
Kettleman Hills
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CALIFORNIA
OIL ROYALTIES
Long Beach Field, Los Angeles County, California.
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New York, N. Y.

WRITE W. P. Harley, Bowling Green, Ky., for drilling propositions in proven shallow territory—Turn-Key job.

Royalties—Production

PRODUCING OIL ROYALTIES
at Wholesale.
JOHN P. BOOTH
Union Nat'l Bank Bldg.
Wichita, Kans.

OIL REPORT SERVICE
Specimen and Particulars on Request.
OIL INFORMATION BUREAU
501-04 Petroleum Bldg., Okla. City, Okla.

Prod. and nonprod. royalties, Kans., Okla., Tex., Lea Co., N. Mex., bargain prices. Jas. R. Haynes, Grantville, Kans.

BROKERS — SALESMEN
Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Securities and Exchange Commission. Inquiries invited.
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Paul Brown Bldg., St. Louis, Mo.

WILL PURCHASE BOSCO—VAN
Submit detailed offerings.
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Leases—Production

15% NET INVESTMENT
$18,528 rental during next 5½ years from Texas Company lease, pays 15% net on price of $20,000. Play safe against inflation and enjoy a splendid income. Property worth $25,000. Wm. F. Schutz, 311 Navarro St., San Antonio, Texas.

LEASES in proven big gas territory, not condemned for oil, at ten to twenty-five, royalties at twenty to fifty; wildcat ahead of production and between two producing territories at three to ten for lease and six to twenty for royalty in Texas Panhandle or Western Oklahoma should be good investments. Can furnish leases forty acres up, royalty ten acres up. E. B. Reeves, Box 475, McLean, Tex.

GO 50-50 WITH "BUD"
With four chances to win gas or oil in stripper fields. Four producing strata above 800 feet; gas to five million or more and eight cent market. Pipe line and truck oil markets. I furnish leases, drill, give you half. Write for full data, clean-cut, definite.
H. B. Buddenborg, Osawatomie, Kans.

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40 ac. NW Sec. 15-17-29, also 40 ac. NW SW Sec. 2-20-28, Eddy Co., N. M. A. R. Hewitt, 1325 Mont., St., ElPaso, Tex.

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, N. Mex.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

Business Opportunities

For Sale $17,500 Coal Roy. for $3,000 cash. Mine in operation now. Sick and must sell. Jasper N. Butler, Poteau, Okla.

Geophysical Services

GEOPHYSICAL TESTS made of any Well Location in Tex. or Okla.: Crew Service $45; Via Express $20 by following our directions. Geological Scientific Service Co., 957 Davis, Ft. Worth, Tex.

Maps

MICHIGAN OIL FIELDS
MAPS AND REPORTS.
PERCY L. PROUT
Geologist,
1231 Majestic Bldg., Detroit, Mich.

CLASSIFIED DISPLAY RATES

Classified Display Advertising is set with a border and may be used in one or two column sizes. Ten point text capitals are allowed; larger type not accepted.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line. PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*
7 Lines	*$2.45*	*$4.20*	*$5.95*	*$7.70*
8 Lines	*2.80*	*4.80*	*6.80*	*8.80*
9 Lines	*3.15*	*5.40*	*7.65*	*9.90*
10 Lines	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

CLASSIFIED ADVERTISING

For Sale—Equipment

Dismantling Continental Oil Refinery, Sapulpa, Oklahoma

We offer for sale the entire plant and equipment at salvage prices. Seldom has such late type Topping and Cracking equipment been dismantled. A personal inspection will convince you. Some of the principal items as follows:

2—525 H.P. Babcock & Wilcox Water Tube Boilers, with Superheaters complete with extra equipment for efficient and economic operation. Guarantee insurance inspection. Rating 160 lbs. pressure.

2—National Transit Duplex Steam Hot Oil Pumps—Cap. 185 GPM—1000 lbs. pressure—900° F. Driven by Cross Compound Steam Engine, Condensing type. Pumps like new, original cost about $26,000 each. Will sacrifice at small fraction of new cost for quick sale.

1—Foster Wheeler Tube Still, Cap. 4000 bbls. (24 hrs.) looks like new.

14—Brown Electric Control & Recording Instruments, complete in every detail—Modern type—Equal in every respect to any instrument offered by new manufacturer—A chance to make a big saving.

22—Braun Heat Exchangers from 98 to 1000 sq. ft. surface. Floating head type—1, 2 and 4 Pass. Enough sizes to suit your requirements.

1—Complete Gas Absorption Plant—Cap. 100 bbls. day—Designed to operate up to 60 lbs. pressure—Includes full equipment.

1—Complete Continuous Treater and Doctor plant.

Many other items too numerous to mention such as FRACTIONATING BUBBLE TOWERS, CENTRIFUGAL WATER PUMPS powered by electric motors, AGITATORS, STEAM PUMPS, FIRE PUMPS, FIRE FIGHTING APPARATUS, CONDENSER AND COOLING BOXES, STEEL STORAGE TANKS, CRANE AND WALWORTH STEEL VALVES and FITTINGS, 100 miles of PIPE LINE from ¾" to 12", etc., etc.

WRITE FOR FULL DESCRIPTIVE CIRCULAR

BROWN-STRAUSS CORPORATION

Mail address, P. O. Box 220, Sapulpa, Oklahoma Phone 1476

Home Office and Plant—Kansas City, Missouri.

For Sale—Equipment

Dismantling Two Complete Refineries

The Altitude Refinery at Chanute, Kansas, cost over $1,000,000.00 operated until February, 1935. The Marathon Refinery at Boynton, Oklahoma, cost over $2,000,000.00 operated until January 8th, 1934. Will sell all or any items in the plant consisting of 2—1000 bbl. each. Jenkins cracking units, 15,000 bbl. capacity skimming units, 2000 to 2500 bbl. Winkler-Koch pipe still; over 250 pumps of all kinds, pressure, hot oil, centrifugal, etc. All sizes condenser boxes, coils, heat exchangers, complete Carbondale wax plant, two 48", 325 plate wax presses together with all chilling and refrigerating equipment. Two 35 ton Carbondale refrigerating units, complete. Over 1,000,000 barrels of storage capacity, vertical and horizontal, from 100 bbl. to 80,000 bbl. tanks. 100,000 valves and fittings, both high and low pressure, Oakite treated. Over 100 miles of all sizes of pipe, complete laboratory equipment, new repair parts, etc. Inventories furnished on request.

Wire, phone, or write,

W. C. Berry or H. J. Galamba

SONKEN-GALAMBA CORPORATION

64 North Second Street, Kansas City, Kansas.

For Sale—Equipment

Steel Storage Tanks—Moved and Re-erected

We own and offer up to 150—55,000 bbl. steel storage tanks where are, or cut down and re-erected your grade at great saving. Special transportation rates established any point in Texas. Over 300 other size tanks from 100 bbl. to 80,000 bbls.

Wire, phone, or write, W. C. Berry.

SONKEN-GALAMBA CORPORATION

64 North Second Street, Kansas City, Kansas.

4—300 amp. Lincoln Engine driven welder. A-1 condition. Stationary type. Service Co., 3732 Cedar, Cleveland, Ohio.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

1—Type 10—80 HP Bessemer Cooper unit.
17 x 20 compressor cylinder.
Good as new.
Located near Tulsa.
Address Box G-742, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE — Complete lubricating compounding plant. Approximately two hundred and fifty thousand gallon storage. Five large blending tanks all inside building. Low rental for building. Splendidly located in Chicago. Served by two railroads. Address Box G-741, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE at low prices, 172 3" x 24" A.P.I. Heat treated tool joints with Bettis Protectors, brand new. General Machine & Supply Co., Wichita Falls, Texas.

FOR SALE—USED GAS METERS
POSITIVE AND ORIFICE.
Geo. R. Milner, Okmulgee, Okla.

Testing Service

GAS TESTING
Field tests for gasoline content, orifice meters tested, chart computations.
OKLA. METER & GAS TESTING CO.
922 Kennedy Bldg., Tulsa.

Oil Industry Printing

"Silver Anniversary Catalog Ready Now"
OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Equipment Wanted

We Pay Cash for Any Good Used Oil Well Drilling Equipment.
INDEPENDENT
Pipe & Supply Company
2311 West St. Fairfax 9339
Houston, Texas.

WANTED—Second-hand Ft. Worth Spudder, with string of tools. Address Box G-734, The Oil and Gas Journal, Tulsa, Okla.

WANTED — A Heat Exchanger with 1200 Square Feet of heating surface, preferable with 1" tubes, liquid compartment designed for 200 to 300 pounds pressure, steam section for 150 pounds pressure. Address Box G-736, The Oil and Gas Journal, Tulsa, Okla.

DRLG. machine, late model, good condition, with tools, tractor type preferred, with Diesel or gasoline engine. Will consider other types. For drlg. hole 3500 ft., Michigan. Give full particulars and lowest cash price or terms. A. M. Colegrove, 910 Lafayette Building, Detroit, Mich.

Mailing Lists

Prospect lists for the sale of royalties and leases. Steadily employed salaried men. Divided by States.
Personal mailing lists for manufacturers who sell to the oil industry. Write us.
OIL INDUSTRY MAILING LIST CO.
P. O. Box 2603 Tulsa, Okla.

Financing

PROSPECTUSES prepared and deals shaped up for registration or exemption under Federal Security Act. Fee basis John Morris, Seventh Floor, 1237 Market St., Philadelphia, Pa.

MILLER, 604 W. Seventh St., Tulsa, Okla. Prospectus preparation and presentation. General assistance in all marketable matters. Correspondence invited.

Help Wanted

BE AN EXPERT DIESEL ENGR. Learn Diesels in our big, nationally recommended schools and shops. New low-cost combination course HOME STUDY with PRACTICAL TRAINING. NATION-WIDE EMPLOYMENT System. References required. HEMPHILL DIESEL SCHOOLS, P. O. Box 2624, TULSA, OKLA.

WANTED
GRADUATE ENGINEER
with practical experience in production or pipe line work or both. Give all details age, education and experience and approximate salary desired. Position has unusual opportunities. Address Box G-732, The Oil and Gas Journal, Tulsa, Oklahoma.

PETROLEUM ENGINEER WANTED

With experience in the production of oil, and the treating of emulsions, for the design, testing and sale of production equipment. Apply by letter only, stating education and experience.

BLACK, SIVALLS & BRYSON, INC.,

Oklahoma City, Okla.

Situations Wanted

LAND MAN—15 years' experience in the oil business, seven years' buying and selling leases and royalties. Knows West Texas and Southeast New Mexico areas exceptionally well. Age 35. Desires connection with Oil Company or Individual for full time on any reasonable basis.
Address R.R.W., Box 1159,
Amarillo, Texas.

SALESMAN, 40, fifteen yrs. experience fishing, rotary, cable, production and titles, Tex.-Okla. Now employed. Wish change. B. G., Box 1064, Tyler, Tex.

GRADUATE chemist, general refining experience and research assistant; foreign languages; will consider foreign connection. Address Box G-735, The Oil and Gas Journal, Tulsa, Okla.

Situations Wanted

Male Steno. 10 yrs. exp., age 32, single, seeks work with Oil man or Oil Co. Address Box G-721, The Oil and Gas Journal, Tulsa, Okla.

ENGINEER—w/12 yrs. exp. in design, sales and manufacture of prod. and drlg. eqpt., desires sales or participating manufacturing connection. Field experience and acquaintance through Mid-Continent and Gulf Coast areas. Address Box G-733, The Oil and Gas Journal, Tulsa, Oklahoma.

GENERAL representation for France and Belgium of a Petroleum Co. well placed for export business wanted by Frenchman very well connected with French and Belgium importers, susceptible of doing good trading. First class French and American references. Address Box G-731, The Oil and Gas Journal, Tulsa, Okla.

SALES ENGR., 10 years' sales and engineering industrial petroleum. Ch. Engr. marine license Diesel vessels. Power plants, Paper mills, railroads, training men, market surveys. Age 43. Address Box G-740, The Oil and Gas Journal, Tulsa, Oklahoma.

Ranches—Farm Lands

FOR SALE — Must sell 1,040 acre mountain ranch. Large trout stream running through center. Fully equipped. Located 110 miles west of Denver in Middle Park. For further information write M. A. Lackner, Black Creek, Ranch, Kremmling, Colo.

Patent Attorneys

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form:
"Evidence of Conception,"
Instructions "How to Establish Your Rights" and complete information FREE!
LANCASTER, ALLWINE & ROMMEL
418 Bowen Building,
Washington, D. C.

Incorporations

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free Forms. Colonial Charter Co., Wilmington, Del.

DELAWARE CHARTERS — Fee small; submitted forms. Chas. G. Guyer, 901 Market Street, Wilmington, Del.

July

5—Los Angeles, Calif., California Natural Gasoline Association.

15-16—Los Angeles, Calif., Mineral Law Section, American Bar Association, Biltmore Hotel.

18—South Dakota Independent Oil Men's Association, place to be named later.

August

1—Los Angeles, Calif., California Natural Gasoline Association.

(?)—American Petroleum Equipment Suppliers' Association, place to be named later.

19-24—San Francisco, Calif., American Chemical Society.

September

4-5—Louisville, Ky., Kentucky Petroleum Marketers Association.

Oil Man's Calendar

18-20—Hot Springs, Ark., North American Gasoline Tax Conference.

18-20—Atlantic City, N. J., National Petroleum Association, annual meeting, Hotel Traymore.

24-25—Toledo, Ohio, Ohio Petroleum Marketers Association, Annual Fall Conference and Golf tournament.

October

10-12—Houston, Tex., mid-year meeting of Petroleum Division of A.I.M.E.

14-18—Louisville, Ky., National Safety Council, twenty-fourth annual safety congress.

14-18—Atlantic City, N. J., American Gas Association, Manufacturers' Division.

14-19—Oklahoma City, Okla., National Tax Association, Oklahoma Biltmore Hotel.

16-17—Mexico City, Mexico, mid-year meeting A.A.P.G. and seventh annual meeting, San Antonio section, A.A.P.G.

20-26—Paris, France, International Congress of Mining, Metallurgy and Applied Geology.

24-25—Toledo, Ohio, Ohio Petroleum Marketers Association, Annual Fall Conference and Golf Tournament.

November

4-5—Dallas, Tex., I.P.A.A., annual convention.

11-14—Los Angeles, Calif., American Petroleum Institute, sixteenth annual meeting, Biltmore Hotel.

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